

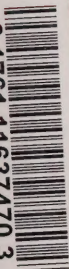
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CANADIAN IRON ORE INDUSTRY STATISTICS 1971-72

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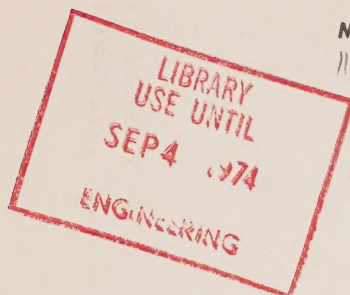
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Canadian Iron Ore Industry Statistics, 1971-72

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PREFACE

This bulletin was prepared to continue the Canadian iron ore industry statistics series that was developed for the Mineral Information Bulletin published from 1955 through 1970. The statistical data supplements the Iron Ore chapter of the Canadian Minerals Yearbook.

All data were supplied to Mineral Development Sector by the Canadian iron ore industry whose co-operation is greatly appreciated.

November 1973.



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1972 Statistics

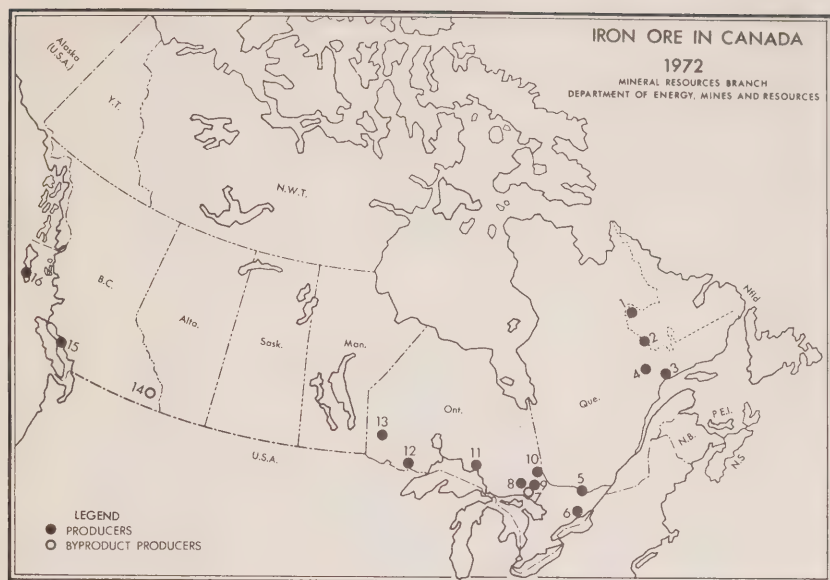
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1971 STATISTICAL REVIEW;
BY COMPANY



PRODUCERS

(numbers refer to numbers on map)

1. Iron Ore Company of Canada (Schefferville)
2. Iron Ore Company of Canada (Labrador City)
Scully Mine of Wabush Mines (Wabush)
3. Pointe Noire Division of Wabush Mines
(Pointe Noire)
4. Quebec Cartier Mining Company (Gagnon)
5. The Hilton Mine (Shawville)
6. Marmoraton Mining Company, Division of
Bethlehem Chile Iron Mines Company
(Marmora)
7. National Steel Corporation of Canada,
Limited (Capreol)
8. Sherman Mine of Dominion Foundries and
Steel, Limited (Temagami)
10. Adams Mine of Dominion Foundries and
Steel, Limited (Kirkland Lake)
11. Algoma Ore Division of The Algoma
Steel Corporation, Limited (Wawa)

12. Caland Ore Company Limited (Atikokan)
Steep Rock Iron Mines Limited (Atikokan)
13. The Griffith Mine (Bruce Lake)
15. Texada Mines Ltd. (Texada Is.)
16. Wesfrob Mines Limited (Moresby Is.)

BYPRODUCT PRODUCERS

7. Falconbridge Nickel Mines Limited
(Falconbridge)
 - a. Pyrrhotite Plant
 - b. Iron-Nickel Refinery
- The International Nickel Company of
Canada, Limited (Copper Cliff)
14. Cominco Ltd. (Trail)

Figure 1

TABLE 1

CANADA, IRON ORE PRODUCERS¹, 1970 AND 1971

Company and Property/ Location	Participating Companies	Material Mined and/or Treated (% Fe natural)	Product Shipped (% Fe dry)	Shipments ('000 long tons)	
				1970	1971
Adams Mine; Boston Twp., near Kirkland Lake, Ont.	Dominion Foundries and Steel, Ltd.(Adams Mine, acquired from Jones & Laughlin Mining Company, Ltd. July 30, 1971); managed by Cliffs of Canada Limited, a wholly-owned subsidiary of the Cleveland-Cliffs Iron Company	Magnetite from open pit from mine (20)	Pellets (65)	1,173	1,036
Algoma Ore Division of The Algoma Steel Corp., Ltd.; mines and sinter plant near Wawa, Ont.	Wholly owned	Siderite from open pit and underground mines (33)	Siderite sinter (50)	1,529 ²	1,628 ³
Caland Ore Co. Ltd.; E. arm of Steep Rock Lake, near Atikokan, Ont.	Inland Steel Co.	Hematite and goethite from open pit mine (54)	Pellets (63) Concentrate (59)	1,086 1,057	859 612
Coast Copper Co., Ltd.; Benson L., northern Vancouver Is., B.C.	Cominco Ltd.	Chalcopyrite and magnetite from underground mine (30)	Magnetite con- centrate (65)	77	-
Griffith Mine, The; Bruce Lake 35 miles south of Red Lake, Ont.	The Steel Co. of Canada, Ltd.; managed by Pickands Mather & Co.	Magnetite from open pit mine (32)	Pellets (66)	1,503	1,364
Hilton Mine, The; near Shawville, Quebec, 40 miles NW of Ottawa	The Steel Co. of Canada, Ltd.; 50%; Jones & Laughlin Steel Corp., 25%; Pickands Mather & Co. (managing agent), 25%	Magnetite from open pit mine (36)	Pellets (67)	1,030	869

TABLE 1 (cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated (% Fe natural)	Product Shipped (% Fe dry)	Shipments ('000 long tons)	
				1970	1971
Iron Ore Company of Canada	Labrador Mining and Exploration Co., 4.73%; Hollinger Mines Ltd., 10.17%; The Hanna Mining Co. (managing agent), 26.37%; Armco Steel Corp., 5.87%; Bethlehem Steel Corp., 18.80%; Youngstown Sheet and Tube Company ⁵ , 5.87%; National Steel Corp., 17.62%; Republic Steel Corp., 5.87%; Wheeling-Pittsburgh Steel Corp., 4.70%	Hematite-goethite-limonite from open pit mines (54)	Direct-shipping ore (59)	7,625	5,922
1. Schefferville, Que., operation		Specular hematite and some magnetite from open pit mines	Pellets (65) Concentrate (65)	10,535 1,948	9,476 1,795
2. Carol Lake, Labrador operation ⁶					
Marmoraton Mining Co., Division of Bethlehem Chile Iron Mines Company; near Marmora, Ont.	Bethlehem Steel Corp.	Magnetite from open pit mine (21e)	Pellets (65)	465	474
National Steel Corporation of Canada Ltd., Moose Mountain Mine; Sudbury area, 20 miles north of Capreol, Ont.	National Steel Corp. (The Hanna Mining Co. is the managing agent)	Magnetite from open pit mine (33)	Pellets (64)	663	681
Quebec Cartier Mining Co.; Gagnon, Quebec	United States Steel Corp.	Specular hematite from open mine (33)	Specular hematite concentrate (66)	8,870	7,864

TABLE 1 (cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated (% Fe natural)	Product Shipped (% Fe dry)	Shipments ('000 long tons)	
				1970	1971
Sherman Mine; near Temagami, Ontario	Dominion Foundries and Steel, Limited, 90%; Tetapaga Mining Company (wholly-owned subsidiary of the Cleveland-Cliffs Iron Company), 10%. The operation and management of the mine is by Cliffs of Canada, Limited, also a wholly-owned subsidiary of the Cleveland-Cliffs Iron Company	Magnetite from open pit mines (25)	Pellets (65)	914	1,026
Steep Rock Iron Mines Ltd.; Steep Rock Lake, N. of Atikokan, Ont.	Publicly-owned company	Hematite-goethite from open pit mine (51e)	Concentrate (59) Pellets (63)	47 1,435	5 1,411
Texada Mines Ltd.; Texada Island, B.C.	Kaiser Aluminum and Chemical Corp.	Magnetite and chalcocopyrite from underground mines (34)	Magnetite concentrate (66)	467	512
Wabush Mines; Scully Mine includes mine and concentrator at Wabush, Labrador; Pointe Noire Division includes pelletizing plant at Pointe Noire, Que.	The Steel Co. of Canada, Ltd., 25.6%; Dominion Foundries and Steel, Ltd., 16.4%; Youngstown Sheet and Tube Company ⁵ , 15.6%; Inland Steel Co., 10.2%; Interlake, Inc., 10.2%; Wheeling-Pittsburgh Steel Corp., 10.2%; Finsider of Italy, 6.6%; and Pickands Mather & Co. (managing agent), 5.2%	Specular hematite and some magnetite from open pit mine (31)	Pellets (66)	5,478	5,597

TABLE 1 (cont'd)

Company and Property Location	Participating Company	Material Mined and/or Treated (% Fe natural)	Product Shipped (% Fe dry)	Shipments ('000 long tons)	
				1970	1971
Wesrob Mines Limited; Tasu Harbour, Moresby Is., Queen Charlotte Is., B.C.	Falconbridge Nickel Mines Limited	Magnetite and chalcocopyrite from open pit mines (39)	Pellet-feed concentrate (70) Sinter-feed concentrate (61)	604	727 528
BYPRODUCT PRODUCERS					
Cominco Ltd.; Kimberley, B.C.	Publicly-owned company	Pyrrhotite flotation concentrates roasted for acid production; calcine sintered	Iron oxide sinter (65) is processed into pig iron at plant	146 ⁷	47 ⁷
Falconbridge Nickel Mines Ltd., Falconbridge, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates treated	Calcine (67)	63	82
The International Nickel Co. of Canada, Ltd.; Copper Cliff, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates treated	Pellets (67)	667 ^e	796
Quebec Iron and Titanium Corp.; mine at Lac Tio, Que.; electric smelter at Sorel, Que.	Kennecott Copper Corp.; Gulf & Western Industries Inc. (The New Jersey Zinc Co.)	Ilmenite-hematite ore (40% Fe, 35% TiO ₂) from open pit mine at Lac Tio, beneficiated and calcined at Sorel	Calcine smelted by electric smelting to TiO ₂ slag, and various grades of de-sulphurized pig iron or remelt iron	1,571 ⁸	1,580 ^{e8}

Sources: Company reports, personal communications and others.

1 Exclusive of Craigmont Mines Limited which ships magnetite byproduct concentrate to Western Canada coal preparation plants; 2 Including 626,000 tons of superfluxed sinter, and 1,695 tons of crude ore shipped to the U.S.A. to be used as a food supplement in the livestock industry; 3 Comprising 1,539,648 tons of superfluxed sinter, 86,393 tons of regular sinter and 2,237 tons of crude ore shipped to the U.S.A. to be used as a food supplement in the livestock industry; 4 Iron recovery plant no longer operating; 5 Operating subsidiary of Lykes-Youngstown Corporation; 6 The assets of the Carol Pellet Company, which was established to pelletize concentrates produced by IOC, were acquired by IOC on December 31, 1970; 7 Sinter consumed in pig iron production; 8 Ilmenite calcine smelted.

e Estimated; - Nil.

TABLE 2

CRUDE IRON ORE MINED IN CANADA, BY VARIETY AND GRADE, 1971

	Hematite		Magnetite		Siderite	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada (Carol Operation)	24,962,700 ¹	38.4	-	-	-	-
Wabush Mines	17,751,094	32.94	-	-	-	-
Labrador-Quebec						
Iron Ore Company of Canada (Schefferville)	6,920,791	54.35 ²	-	-	-	-
Quebec						
Hilton Mine, The	-	-	3,193,216	24.6	-	-
Quebec Cartier Mining	19,485,440	33.4	-	-	-	-
Ontario						
Adams Mine	-	-	4,172,219	19.15	-	-
Algoma Ore Division	-	-	-	-	2,675,916	33.38
Caland Ore Co.	1,292,058	54.23	-	-	-	-
Griffith Mine, The	-	-	4,561,064	27.48	-	-
Marmoraton Mining Co.	-	-	1,680,000 ³	21.40 ³	-	-
Moose Mountain Mine	-	-	-	-	-	-
(National Steel)	-	-	1,573,735	33.43	-	-
Sherman Mine	-	-	3,791,986	25.08	-	-
Steep Rock Iron Mines	2,167,447 ^e	50.50 ^e	-	-	-	-
British Columbia						
Texada Mines Ltd.	-	-	1,046,918	33.07	-	-
Wesfrob Mines Limited	-	-	1,789,950	38.27	-	-
Total	72,579,530	37.89	21,809,088	26.16	2,675,916	33.38

Source: Data supplied to Mineral Resources Branch by companies.

¹ Some magnetite recovered from spiral tails; ² Analysis of shipments; ³ Estimated; 839,140 tons grading 42.79% Fe to mill after crushing and dry magnetic cobbing.

e Estimated; - Nil.

TABLE 3

CRUDE IRON ORE MINED IN CANADA, BY MINING METHOD, 1971

	Open Pit		Underground		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland						
Iron Ore Co. of Canada (Carol Operation)	24,962,700	38.4	-	-	24,962,700	38.4
Wabush Mines	17,751,094	32.94	-	-	17,751,094	32.94
Labrador-Quebec						
Iron Ore Co. of Canada (Schefferville)	6,920,791	54.35 ¹	-	-	6,920,791	54.35 ¹
Quebec						
Hilton Mine, The	3,193,216	24.6	-	-	3,193,216	24.6
Quebec Cartier Mining	19,485,440	33.4	-	-	19,485,440	33.4
Ontario						
Adams Mine	4,172,219	19.15	-	-	4,172,219	19.15
Algoma Ore Division	-	-	2,675,916	33.38	2,675,916	33.38
Caldan Ore Co.	1,292,058	54.23	-	-	1,292,058	54.23
Griffith Mine, The	4,561,064	27.48	-	-	4,561,064	27.48
Marmoraton Mining Co.	1,680,000 ²	21.40 ²	-	-	1,680,000 ²	21.40 ²
Moose Mountain Mine (National Steel)	1,573,735	33.43	-	-	1,573,735	33.43
Sherman Mine	3,791,986	25.08	-	-	3,791,986	25.08
Steep Rock Iron Mines	2,167,447 ^e	50.50 ^e	-	-	2,167,447 ^e	50.50 ^e
British Columbia						
Texada Mines Ltd.	1,044,193	33.07	2,725	33.07	1,046,918	33.07
Wesfrob Mines Limited	1,789,950	38.27	-	-	1,789,950	38.27
Total	94,385,893	35.18	2,678,641	33.38	97,064,534	35.13

Source: Data supplied to Mineral Resources Branch by companies.

¹ Analysis of shipments; ² Estimated; 839,140 tons grading 42.79% Fe to mill after crushing and dry magnetic clobbering.^e Estimated; - Nil.

TABLE 4

DISPOSITION OF CRUDE IRON ORE MINED IN CANADA, 1971

	For Direct Shipping		To Concentration Plant		To Concentration and Agglomeration Plant		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland								
Iron Ore Co. of Canada (Carol Operation)	-	-	-	-	24,962,700	38.4	24,962,700	38.4
Wabush Mines	-	-	-	-	17,751,094	32.94	17,751,094	32.94
Labrador-Quebec								
Iron Ore Co. of Canada (Schefferville)	6,920,791	54.35 ¹	-	-	-	-	6,920,791	54.35 ¹
Quebec								
Hilton Mine, The	-	-	-	-	3,193,216	24.6	3,193,216	24.6
Quebec Cartier Mining	-	-	19,485,440	33.4	-	-	19,485,440	33.4
Ontario								
Adams Mine	-	-	-	-	4,172,219	19.15	4,172,219	19.15
Algoma Ore Division	2,237 ²	35.19	-	-	2,675,916	33.38	2,675,916	33.38
Galand Ore Co.	-	-	-	-	1,292,038	54.23	1,292,038	54.23
Griffith Mine, The	-	-	-	-	4,561,064	27.48	4,561,064	27.48
Marmoraton Mining Co.	-	-	-	-	1,680,000 ³	21.40 ³	1,680,000 ³	21.40 ³
Moose Mountain Mine (National Steel)	-	-	-	-	1,573,735	33.43	1,573,735	33.43
Sherman Mine	-	-	-	-	3,791,986	25.08	3,791,986	25.08
Steep Rock Iron Mines	-	-	781,297 ⁴	44.30	1,386,150e ⁵	54e	2,167,447e	50.50e
British Columbia								
Texada Mines Ltd.	-	-	1,046,918	33.07	-	-	1,046,918	33.07
Wesfrob Mines Limited	-	-	1,789,950	38.27	-	-	1,789,950	38.27
Total	6,923,028	54.34	23,103,605	34.13	67,037,901	33.49	97,064,534	35.13

Source: Data supplied to Mineral Resources Branch by companies

¹ Analysis of shipments; ² For special use; ³ Estimated; 839,140 tons grading 47.79% Fe to mill after crushing and dry magnetic cobbing;⁴ The bulk of concentrate produced used to make pellets; ⁵ Crude ore shipped directly to plant without prior concentration.

e Estimated; - Nil.

TABLE 5

USABLE IRON ORE PRODUCED IN CANADA, BY TYPE OF PRODUCT, 1971

	Direct Shipping		Concentrates		Agglomerates		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Iron Ore								
Newfoundland								
Iron Ore Co. of Canada (Carol Operation)	-	-	1,366,366 ¹	62.56 ²	10,050,000	64.53 ³	11,416,366	64.29
Wabush Mines	-	-	-	-	6,105,504	64.20	6,105,504	64.20
Labrador-Quebec								
Iron Ore Co. of Canada (Goulet-Ferrière)	6,920,791	54.35 ⁴	-	-	-	-	6,920,791	54.35 ⁴
Quebec								
Hilton Mine, The	-	-	-	-	-	-	-	-
Quebec Cartier Mining	-	-	8,620,776	64.20	925,057	67.08	9,545,833	67.08
Ontario								
Adams Mine	-	-	-	-	1,023,787	65.39	1,023,787	65.39
Algoma Ore Division	2,237 ⁵	35.19	-	-	1,639,366	47.83	1,641,603	47.82
Caland Ore Co.	-	-	-	-	950,000 ⁶	62.73 ⁸	1,150,000 ⁶	61.60
Griffith Mine, The	-	-	200,000 ⁶	56.25 ⁶	1,366,205	67.15	1,366,205	67.15
Marmoraton Mining Co.	-	-	-	-	479,826	65.2 ⁶	479,826	65.2 ⁶
Moose Mountain Mine (National Steel)	-	-	-	-	671,420 ⁷	62.52 ⁶	671,420 ⁷	62.52 ⁶
Sherman Mine	-	-	-	-	1,021,798	64.88	1,021,798	64.88
Steep Rock Iron Mines	-	-	401,266	55.22	1,400,900	62.52	1,802,166	60.74
British Columbia								
Texada Mines Ltd.	-	-	673,291	60.84	-	-	673,291	60.94
Westrob Mines Ltd.	-	-	1,123,013	60.99	-	-	1,123,013	60.99
Total Iron Ore	6,923,028	54.34	12,184,712	63.17	25,633,863	64.20	44,741,603	61.95
Byproduct Iron Ore								
Cominco Ltd.								
(Kimberley, B.C.)	-	-	-	-	43,036	64	43,036	64
Falconbridge Nickel Inco. (Copper Cliff, Ont.)	-	-	-	-	70,172	67 ^e	70,172	67 ^e
	-	-	-	-	804,256	67.6 ⁶	804,256	67.6 ⁶
Total Byproduct Iron Ore	-	-	-	-	917,464	67.4	917,464	67.4
Total Usable Iron Ore Produced	6,923,028	54.34	12,184,712	63.17	26,551,327	63.56	45,659,067	62.06

Source: Data supplied to Mineral Resources Branch by companies.

¹ Difference between concentrate produced and concentrate sent to pellet plant; ² Analysis of concentrate to pellet plant; ³ Analysis of pellets shipped from Sept.-iles; ⁴ Analyses of shipments from Sept.-iles; ⁵ For special use; ⁶ Analysis of shipments; ⁷ Shipments taking into account change in stocks.

^e Estimated; - Nil.

TABLE 6

WASTE/ORE AND CONCENTRATION RATIOS AT CANADIAN IRON ORE MINES, 1971

	Open Pit Waste	Underground Waste	Iron Ore Mined (long tons)	Usable Iron Ore Produced	Waste/Ore Ratio	Waste-Usable Ore Ratio	Concentration Ratio
Newfoundland							
Iron Ore Co. of Canada (Carol operation)	8,717,364 ¹	-	24,962,700	11,550,000 ²	0.35	0.46	2.16
Labash Mines	2,688,308	-	17,751,094	6,105,504	0.15	0.44	2.91
Labrador Quebec Iron Ore Co. of Canada (Schefferville)	12,574,200 ¹	-	6,920,791	6,920,791	1.82	1.82	n.a.
Quebec							
Hilton Mine, The	793,370	-	3,193,216	925,057	0.25	0.86	3.45
Quebec Cartier Mining	9,780,000 ¹	-	19,485,440	8,620,776	0.50	1.13	2.26
Ontario							
Adams Mine	3,509,954	-	4,172,219	1,023,787	0.84	3.43	4.08
Algoma Ore Division	-	5,758	2,675,916	1,641,603	0.00	0.00	1.63
Caland Ore Co.	-	-	1,292,058	1,150,000 ^e	n.a.	n.a.	1.12
Griffith Mine, The	1,973,958	-	4,561,064	1,366,205	0.43	1.44	3.34
Marmoraton Mining Co.	3,576,800	-	1,680,000 ³	479,826	2.13	7.45	3.50
Moose Mountain Mine (National Steel)	778,700	-	1,573,735	671,420 ⁴	0.49	1.16	2.34
Sherman Mine	950,208	-	3,791,986	1,021,798	0.25	0.93	3.71
Steep Rock Iron Mines	10,985,120 ¹	-	2,167,447	1,802,166	5.07	6.10	1.20
British Columbia							
Texada Mines Ltd.	-	-	1,046,918	473,291	n.a.	n.a.	2.21
Wesfrob Mines Ltd.	2,095,578 ¹	-	1,789,950	1,123,013	1.17	1.87	1.59

Source: Data supplied to Mineral Resources Branch by companies.

¹ Calculated from data supplied by companies in cubic yards by using a factor of 2.0; ² Concentrate produced; ³ Estimated; 839,140 tons grading 42.79% Fe to mill after crushing and dry magnetic cobbing; ⁴ Shipments with stocks taken into account.

^e Estimated; - Nil; n.a. Not applicable.

TABLE 7

USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY TYPE OF PRODUCT, 1971

	Direct Shipping		Concentrates		Agglomerates		Total	
	Long Tons	% Fe Natural	Long Tons	% Fe Natural	Long Tons	% Fe Natural	Long Tons	% Fe Natural
Iron Ore								
Newfoundland								
Iron Ore Co. of Canada	-	-	1,794,722	63.14	9,475,910	64.52	11,270,632	64.30
(Carol Operation)	-	-	-	-	5,597,110	64.28	5,597,110	64.28
Wabush Mines								
Labrador-Quebec								
Iron Ore Co. of Canada								
(Schefferville)	5,922,468 ¹	54.37 ¹	-	-	-	-	5,922,468 ¹	54.37 ¹
Quebec								
Hilton Mine, The	-	-	-	-	869,178 ²	67.08	869,178 ²	67.08
Quebec Cartier Mining	-	-	7,864,049	64.30	-	-	7,864,049	64.30
Ontario								
Adams Mine	-	-	-	-	1,036,288	65.39	1,036,288	65.39
Algoma Ore Division	2,237 ³	35.19	-	-	1,626,041	47.75	1,626,041	47.75
Galland Ore Co.	-	-	611,909 ⁴	56.25	856,972	62.73	1,468,881	60.03
Griffith Mine, The	-	-	-	-	1,364,104	67.15	1,364,104	67.15
Narmoraton Mining Co.	-	-	-	-	474,418	65.2	474,418	65.2
Noose Mountain Mine	-	-	-	-	-	-	-	-
(National Steel)	-	-	-	-	681,191	62.52	681,191	62.52
Sherman Mine	-	-	-	-	1,025,588	64.88	1,025,588	64.88
Steep Rock Iron Mines	-	-	5,398 ⁴	54.40	1,410,607	62.32	1,416,005	62.29
British Columbia								
Texada Mines Ltd.	-	-	512,079	60.94	-	-	512,079	60.94
Westrob Mines Ltd.	-	-	1,255,540	60.80	-	-	1,255,540	60.80
Total Iron Ore	5,924,705	54.36	12,043,697	63.21	24,419,407	63.41	42,387,809	62.09
Byproduct Iron Ore								
Cominco Ltd.	-	-	-	-	47,143 ⁵	64 ⁶	47,143 ⁵	64 ⁶
(Kimberley, B.C.)	-	-	-	-	81,810	67 ^e	81,810	67 ^e
Falconbridge Nickel	-	-	-	-	795,511	67.6	795,511	67.6
Inco (Copper Cliff, Ont.)	-	-	-	-	-	-	-	-
Total Byproduct Iron Ore	-	-	-	-	924,464	67.4	924,464	67.4
Total Usable Iron Ore Shipped	5,924,705	54.36	12,043,697	63.21	25,343,871	63.56	43,312,273	62.20

Source: Data supplied to Mineral Resources Branch by companies.

¹ Including 15,151 tons of chips grading an estimated 61.66% Fe from Carol Operation; ² Includes 52,437 tons of chips and 1,974 tons of heavy media; ³ For special use; ⁴ Run-of-mine upgraded slightly through process of crushing, screening and drying. According to Mesabi practice may be considered direct-shipping ore; ⁵ Sinter Consumed in production of pig iron; ⁶ Analysis of production.

- Nil; ^e Estimated.

TABLE 8

USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY DESTINATION, 1971

	Canada		United States		All Rail	Britain	ECSC	Japan	Other	Total
	All Rail	Other	Great Lakes	Other Ports						
Iron Ore										
Newfoundland										
Iron Ore Co. of Canada										
Carol Concentrate	-	1,080,440	-	-	-	-	1,226,194 ¹	527,818	40,710 ²	1,794,722
Carol Pellets	-	-	1,878,320	3,823,430	-	-	884,110 ³	272,640	424,010 ⁴	9,475,910
Wabigoon Pellets	-	2,564,117	1,640,402	249,807	-	1,162,960	485,632 ⁵	-	138,944 ⁶	5,597,110
Labrador-Quebec										
Iron Ore Co. of Canada										
(Schefferville)	-	-	2,129,463	1,950,481	-	1,281,150	561,374 ⁷	-	-	5,922,468
Quebec										
Hilton Mine, The	461,093	-	-	-	408,085	-	-	-	-	869,178
Quebec Cartier Mining	-	6,270	3,446,986	189,814	-	1,568,471	1,911,714 ⁸	686,760	54,034 ⁹	7,864,049
Ontario										
Adams Mine	158,826	-	-	-	877,462	-	-	-	-	1,036,288
Algoma Ore Division	1,538,775	87,266	-	-	2,237 ¹⁰	-	-	-	-	1,628,278
Galand Ore Co.	-	-	1,470,881	-	-	-	-	-	-	1,470,881
Griffith Mine, The	-	1,364,104	-	-	-	-	-	-	-	1,364,104
Marmorston Mining Co.	-	-	471,063	-	3,355	-	-	-	-	474,418
Moose Mountain Mine	-	-	-	-	-	-	-	-	-	-
(National Steel)	-	-	681,191	-	-	-	-	-	-	681,191
Sherman Mine	1,025,598	-	-	-	-	-	-	-	-	1,025,598
Sparks Rock Iron Mines	5,368	1,158,392	252,215	-	50	-	-	-	-	1,416,005
British Columbia	-	-	-	-	-	-	-	-	-	-
Texada Mines Ltd.	-	-	-	122,352	-	-	-	512,079	-	512,079
Westrob Mines Ltd.	-	-	-	-	-	-	-	1,133,188	-	1,255,540
Total Iron Ore	3,189,630	6,260,590	11,970,521	6,335,884	1,291,189	4,530,789	5,069,024	3,084,485	657,698	42,387,809
Byproduct Iron Ores										
Cominco Ltd.	-	47,143 ¹¹	-	-	-	-	-	-	-	47,143 ¹¹
(Kimberley, B.C.)	-	-	-	-	-	-	-	-	-	-
Falconbridge Nickel	81,810	-	-	-	-	-	-	-	-	81,810
Inco (Copper Cliff, Ont.)	170,573	-	624,968	-	-	-	-	-	-	795,511
Total Byproduct Iron Ore	252,353	47,143 ¹¹	624,968	-	-	-	-	-	-	924,464
Total Usable Iron Ore Shipped	3,441,983	6,307,733	12,595,489	6,335,884	1,291,189	4,530,789	5,069,024	3,082,485	657,698	43,312,273

Source: Data supplied to Mineral Resources Branch by companies.

¹ Comprising 1,163,598 tons to the Netherlands (the bulk is transhipped to West Germany), 41,608 tons to France and 20,988 tons to Belgium;
² To Finland; ³ Comprising 563,670 tons to Italy, 256,100 tons to the Netherlands, and 41,580 tons to France; ⁴ To Spain; ⁵ To Italy; ⁶ To Spain;
⁷ Comprising 517,486 tons to Italy and 43,888 tons to Belgium; ⁸ To West Germany; ⁹ Comprising 39,138 tons to Finland and 14,896 tons to
 Freeport Grand Bahama; ¹⁰ For special use; ¹¹ Sinter consumption in the production of pig iron.

e Estimated; - Nil.

TABLE 9
STOCKS OF USABLE IRON ORE AT MINES AND
SHIPPING PORTS IN CANADA, 1970-71

(long tons)

	December 31 1970	December 31 1971	Change in Stocks
Newfoundland			
Iron Ore Co. of Canada, Carol Operation			
At Sept-Iles:			
Concentrates	507,556	29,336	-478,220
Pellets	933,072	1,404,977	+471,905
At Labrador City:			
Concentrates	116,339	87,756	-28,583
Pellets	171,248	273,433	+102,185
Wabush Mines	564,486	1,072,808	+508,394
Wabana Mines ¹	55,000	55,000	0
Labrador-Quebec			
Iron Ore Co. of Canada, Schefferville (at Sept-Iles)	2,427,508	3,356,887	+929,379
Quebec			
Hilton Mine, The	26,955	84,725	+57,770
Quebec Cartier Mining Co.	1,136,236	1,892,963	+756,727
Ontario			
Adams Mine	8,815	14,000	+5,185
Algoma Ore Division	115,796	129,121	+13,325
Caland Ore Co. Ltd.	1,018,022	720,451	-297,571
Griffith Mine, The ²	3,623	5,724	+2,101
Marmoraton Mining Co.	44,470	53,134	+8,664
Moose Mountain Mine (National Steel)	60,262	50,491	-9,771
Sherman Mine	5,565	1,775	-3,790
Steep Rock Iron Mines Ltd.	899,785	1,057,108	+157,323
British Columbia			
Texada Mines Ltd.	121,743	103,559	-18,184
Wesfrob Mines Limited	188,130	55,603	-132,527
Total	8,404,611	10,448,923	+2,044,312

Source: Data supplied to Mineral Resources Branch by companies.

¹ Ceased operations June 1966; shipped from stockpile 1967-69; no ore shipped for iron making purposes in 1970-71. ² Excluding stocks at Thunder Bay Terminal of Valley Camp Limited.

- Nil; e Estimated.

TABLE 10
ANALYSES OF CANADIAN IRON ORE SHIPMENTS IN 1971

	Shipments (long tons)	Natural Fe	Dry Analysis					CaO	MgO	S	Loss by Ignition	Moisture	Size Range
			Fe	P	SiO ₂	Mn	Al ₂ O ₃						
%													
<i>Newfoundland</i>													
Iron Ore Co. of Canada,													
Carol Operation													
Carol Pellets	9,475,910	64.515	65.246	0.009	5.20	0.178	0.37	-	-	-	-	-	1.12
Carol Conc'l	1,794,723	63.135	65.766	0.009	4.66	0.174	0.37	-	-	-	-	-	4.00
Carol Chips	15,151	61.660	67.303	0.055	7.54	0.203	0.59	-	-	-	-	-	8.38
Total Carol Operation	11,285,784	64.292	65.331	0.009	5.12	0.177	0.37	-	-	-	-	-	1.59
Mabush Mines													
Pellets	5,597,110	64.28	65.86	-	2.88	1.63	-	-	-	-	-	-	2.40
<i>Quebec-Labrador</i>													
Quebec													
Iron Ore Co. of Canada													
(Schefferville)													
Non-Bessemer	2,752,700	52.178	57.313	0.065	10.93	1.413	1.11	-	-	-	-	-	8.96
Manganiferous	18,781	48.638	54.015	0.109	7.77	5.120	1.12	-	-	-	-	-	9.95
Total, Quebec	2,771,481	52.154	57.291	0.065	10.91	1.438	1.11	-	-	-	-	-	8.97
<i>Labrador</i>													
Iron Ore Co. of Canada													
(Schefferville)													
Non-Bessemer	3,134,855	56.295	61.795	0.060	5.97	0.156	1.65	-	-	-	-	-	8.90
Manganiferous	981	51.492	56.933	0.188	5.68	0.802	1.70	-	-	-	-	-	9.62
Total, Labrador	3,135,836	56.294	61.793	0.060	5.97	0.156	1.65	-	-	-	-	-	8.90
Total, IOC													
(Schefferville)	5,907,317 ²	54.351	59.680	0.062	8.29	0.757	1.39	-	-	-	-	-	8.93

Table 13 (cont'd)

Table 1J (Cont'd)															
	Shipments (long tons)	Natural Fe	Fe		P	SiO ₂	Dry Analysis %			CaO	MgO	S	Loss by Ignition	Moisture	Size Range
			Fe	SiO ₂			Mn	Al ₂ O ₃							
<i>Quebec</i>															
Quebec Cartier Mining Co. Concentrate	7,864,049	64.30	66.12	0.025	5.00	-	0.75	-	-	-	-	-	-	2.75	-10 + 200 mesh
Hilton Mine, The Hilton Pellets	814,767	67.20	67.23	0.006	1.97	0.078	0.30	0.20	1.29	0.005	-	0.07	-	0.07	-5/8" x 3/8" (size range in 1970)
Hilton Chips	52,437	63.53	67.08	0.006	1.97	0.081	0.28	0.20	1.32	0.009	-	5.29	-	5.29	-
Hilton Media	1,974	62.92	67.43	0.008	2.52	0.077	0.26	0.18	1.07	0.58	-	6.70	-	6.70	-
Total, Hilton	869,178	67.08	67.22	0.006	1.97	0.078	0.30	0.20	1.29	0.005	-	0.26	-	0.26	-
<i>Ontario</i>															
Adams Mine Adams Pellets	1,036,288	65.39	65.63	0.018	5.21	0.10	0.19	0.24	0.43	-	-	0.37	-	0.37	-5/8" x 3/8" (size range in 1970)
Algoma Ore Division Algoma Sinter (regular)	86,393	50.05	50.56	0.020	11.21	2.74	2.21	4.80	7.22	0.081	1.05	1.01	-	1.01	-
Algoma Sinter (super-fluxed)	1,539,648	47.62	47.62	0.025	10.13	2.56	1.70	10.58	7.87	0.092	1.05	-	-	-	-
Algoma Crude	2,237	35.19	-	-	-	-	-	-	-	-	-	-	-	-	-
Total, Algoma	1,628,278	47.74	47.78	0.025	10.19	2.57	1.73	10.27	7.84	0.092	1.05	0.09	-	0.09	-
Caland Ore Company Limited Caland Pellets	858,972	62.73	63.12	0.010	6.45	0.25	1.38	0.20	0.25	-	-	-	-	-	-3/4" x 3/8"
Warren Course	611,909	56.25	58.45	0.020	5.46	0.23	0.65	0.18	0.22	-	-	-	-	-	-2 1/4"
Total, Caland	1,470,881	60.03	61.18	0.014	6.04	0.24	1.08	0.19	0.24	-	-	1.92	-	1.92	-
Griffith Mine, The Pellets	1,364,104	67.15	67.27	0.02	2.97	0.39	-	-	-	-	-	0.18	-	0.18	84% + 3/8" - 5/8"
Kirk Pellets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marmorator Mining Co. Marmora Pellets	474,418	65.2	65.2	0.007	3.55	0.09	0.68	1.36	0.90	0.009	-	-	-	-	-1" + 6 mesh
National Steel Corporation of Canada, Ltd. Moose Mt. Pellets	637,245	62.753	63.542	0.010	8.13	0.015	0.56	-	-	-	-	1.25	-	1.25	98% + 1"
Chips	43,946	58.940	62.390	0.009	8.95	0.015	0.60	-	-	-	-	5.53	-	5.53	12% + 1/2"
Total, National Steel	681,191	62.517	63.471	0.010	8.18	0.015	0.56	-	-	-	-	1.52	-	1.52	-

Table 10 (cont'd)

	Shipments (long tons)	Natural Fe	Fe		P	Dry Analysis					Loss by			Size Range
			Fe	MgO		SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S	Ignition	Moisture	
Sherman Mine Pellets	1,025,588	64.88	65.35	0.016	5.58	-	0.28	0.15	0.27	0.003	-	0.72	- 1/2" + 3/8"	
Steep Rock Iron Mines Ltd.														
S.R. Pellets	1,410,607	63.32	62.67	-	7.46	-	-	-	-	-	-	0.56	- 1" + 1/4"	
S.R. Fines	5,348	54.37	58.34	-	6.56	-	-	-	-	0.050	-	6.80	- 4 mesh	
S.R. Coarse	50	57.64	60.36	-	3.63	-	-	-	-	0.021	-	4.50	- 2" + 3/8"	
Total, Steep Rock	1,416,005	62.29	62.65	-	7.46	-	-	-	-	-	-	0.58	-	
British Columbia Texada Mines Ltd. Magnetite conc.	512,079	60.94	64.55	0.010	4.61	-	0.815	2.37	0.67	0.45	-	5.597	- 10 mesh	
Wesfrob Mines Limited Sinter Feed Conc.	528,280	57.55	60.67	0.03	6.58	-	1.34	-	-	0.95	-	5.15	30% - 149 micron max. 4000 micron	
Pellet Feed Conc.	727,260	63.16	69.47	0.01	1.38	-	0.38	-	-	0.45	-	9.09	80% - 44 micron max. 1680 micron	
Total, Wesfrob Mines	1,255,540	60.80	65.68	0.02	3.62	-	0.82	-	-	0.66	-	7.43		

Source: Data supplied to Mineral Resources Branch by companies.

1 Analysis of 1970 shipments. 2 Excluding chips. 3 For special use. - Nil, not available or not applicable; e Estimated.

TABLE 11

CANADA, CONSUMPTION OF IRON-BEARING MATERIALS AT
IRON-STEEL PLANTS¹, 1971

(long tons)

	In Iron and Steel Furnaces		
	In Sinter Plants ²	Pig Iron Furnaces ³	Steel Furnaces Total in Furnaces
Iron Ore			
Crude and concentrates	171,262	281,841	71,753
Pellets	298,933	8,172,045	199,579
Sinter from mines	65,143	1,635,468	160
Subtotal	535,338	10,089,354	271,492
		1,088,404 ⁴	
Sinter Produced at steel plant	-		-
Total	535,338	11,177,758	271,492
% Fe	60.17	60.98	63.31
			61.13
Other Iron-Bearing Materials			
Flue dust	96,695	-	-
Scale, sponge iron, etc.	350,212	115,336	2,856
Total	446,907	115,336	2,856
% Fe	66.10	58.34	60.05
			58.38

Source: Company data supplied to Mineral Resources Branch.

- ¹ All integrated producers; excludes Quebec Iron and Titanium Corp.; ² Sinter plant located at steel works consume new iron ore "screenings" as well as other iron-bearing materials; ³ Blast and electric furnaces; ⁴ Sinter produced mainly from 535,338 tons of "new iron ore" and 446,907 tons of other iron-bearing materials; ⁵ Including sintered iron-bearing materials. Total iron ore consumption of "new iron ore" is an estimated 10,896 million tons comprising 10,361 million tons of iron ore and neglecting losses or gains in weight due to sintering, 0.535 million tons of iron ore fines.

- Nil.

1972 Statistical Review,
by Company

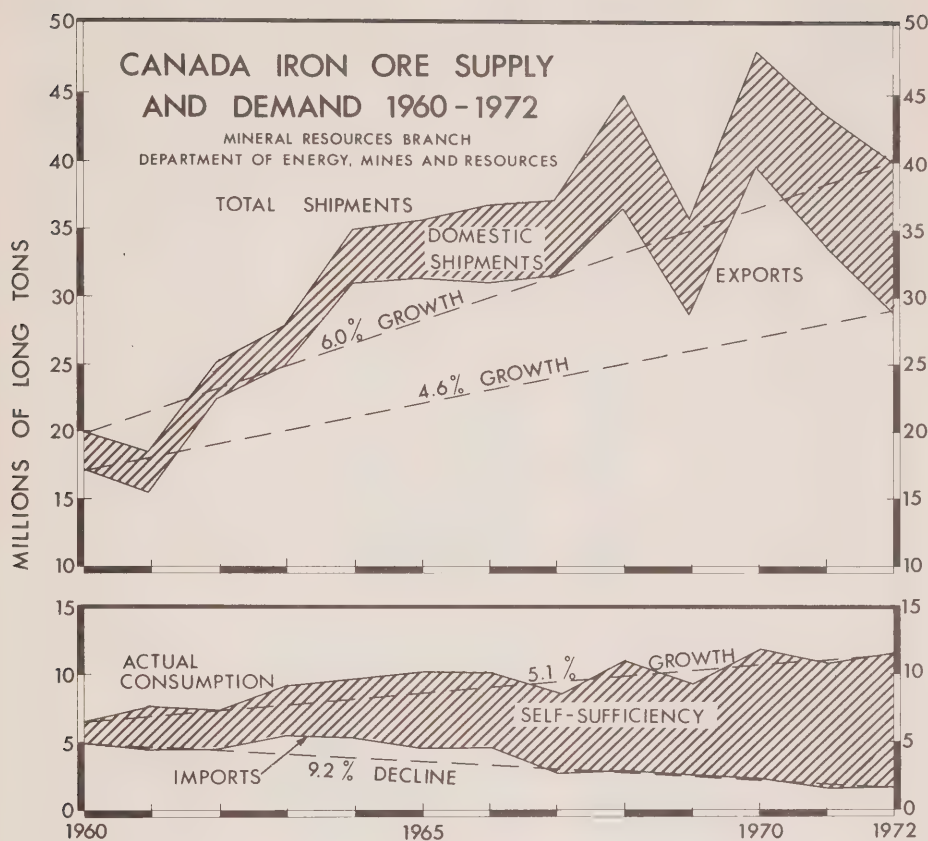


Figure 2

TABLE 12

CANADA, IRON ORE PRODUCERS¹, 1971 and 1972

Company and Property Location	Participating Companies	Material Mined and/or Treated (% Fe natural)	Product Shipped ('000 wet long tons) (% Fe dry/wet)	Shipments	
				1971	1972
Adams Mine; Boston Twp., near Kirkland Lake, Ont.	Dominion Foundries and Steel, Ltd. (acquired from Jones & Laughlin Mining Company, Ltd. July 30, 1971); managed by Cliffs of Canada Limited, a wholly-owned subsidiary of the Cleveland-Cliffs Iron Company	Magnetite from open pit mine (19)	Pellets(66/65)	1,036	1,093
Algoma Ore Division of The Algoma Steel Corp., Ltd.; mines and sinter plant near Wawa, Ont.	Wholly owned	Siderite from open pit and underground mines (34)	Siderite sinter 1,628 ² (48/48)		1,797 ³
Caland Ore Co. Ltd.; East arm of Steep Rock Lake, near Atikokan, Ont.	Inland Steel Co.	Hematite and goethite from open pit mine (54)	Pellets(63/63). Concentrate (59/56)	859 612	1,115 783
Griffith Mine, The; Bruce Lake 35 miles south of Red Lake, Ont.	The Steel Co. of Canada, Ltd.; managed by Pickands Mather & Co.	Magnetite from open pit mine (24)	Pellets(67/67)	1,364	1,380
Hilton Mine, The; near Shawville, Quebec, 40 miles NW of Ottawa	The Steel Co. of Canada, Ltd., 50%; Jones & Laughlin Steel Corp., 25%; Pickands Mather & Co. (managing agent), 25%	Magnetite from open pit mine 25e	Pellets(67/67) [†]	869	878

Table 12(cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated (% Fe natural)	Product Shipped (% Fe dry/wet)	Shipments ('000 wet long tons)	
				1971	1972
Iron Ore Company of Canada	Labrador Mining and Exploration Co., 4.75%; Hollinger Mines Ltd., 10.17%; The Hanna Mining Co. (managing agent).	Hematite-goethite-limonite from open pit mines (54)	Direct-shipping ore(59/54)	5,922	5,046
1. Schefferville, Que., operation					
2. Carol Lake, Labrador operation ⁴	26.37%, Arco Steel Corp., 5.87%; Bethlehem Steel Corp., 18.80%; Youngstown Sheet and Tube Company ⁵ , 5.87%; National Steel Corp., 17.62% Republic Steel Corp., 5.87%; Wheeling-Pittsburgh Steel Corp., 4.70%	Specular hematite and some magnetite from open pit mines	Pellets(65/64) Concentrate(66/63)	9,476 1,795	7,985 578
Marmoraton Mining Co., Division of Bethlehem Chile Iron Mines Company; near Marmora, Ont.	Bethlehem Steel Corp.	Magnetite from open pit mine (20e)	Pellets(65/65)	474	490
National Steel Corporation of Canada Ltd., Moose Mountain Mine: Sudbury area, 20 miles north of Capreol, Ont.	National Steel Corp. (The Hanna Mining Co. is the managing agent)	Magnetite from open pit mine (33)	Pellets(63/63)	681	641
Quebec Cartier Mining Co.; Gagnon, Quebec	United States Steel Corp.	Specular hematite from open mine (33)	Specular hematite concentrate(66/64)	7,864	7,432

Table 12 (cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated (% Fe natural)	Product Shipped (% Fe dry/wet)	Shipments	
				1971	1972
Sherman Mine; near Temagami, Ontario	Dominion Foundries and Steel, Limited, 90%; Tetapaga Mining Company (wholly-owned subsidiary of the Cleveland-Cliffs Iron Company), 10%. The operation and management of the mine is by Cliffs of Canada, Limited, also a wholly-owned subsidiary of the Cleveland-Cliffs Iron Company	Magnetite from open pit mines (24)	Pellets(66/65)	1,026	1,052
Steep Rock Iron Mines Ltd.; Steep Rock Lake, N. of Atikokan, Ont.	Publicly-owned company	Hematite-goethite from open pit mine (55e)	Concentrate (58/54) Pellets(63/63)	5 1,411	7 1,467
Texada Mines Ltd.; Texada Island, B.C.	Kaiser Aluminum and Chemical Corp.	Magnetite and chalcopyrite from underground mines (35)	Magnetite concentrate(65/61)	512	614
Wabush Mines, Scully Mine includes mine and concentrator at Wabush, Labrador; Pointe Noire Division includes pelletizing plant at Pointe Noire, Que.	The Steel Co. of Canada, Ltd., 25.6%; Dominion Foundries and Steel, Ltd., 16.4%; Youngstown Sheet and Tube Company, 15.6%; Inland Steel Co., 10.2%; Interlake, Inc., 10.2%; Wheeling-Pittsburgh Steel Corp., 10.2%; Finisider of Italy, 6.6%; and Pickands Mather & Co. (managing agent), 5.2%	Specular hematite and some magnetite from open pit mine (33)	Pellets(66/64) Concentrate(66/64)	5,597 -	5,310 3

Table 12 (cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated (% Fe natural)	Product Shipped (% Fe dry/wet)	Shipments ('000 wet long tons)	
				1971	1972
Wesrob Mines Limited; Tasu Harbour, Moresby Is., Queen Charlotte Is., B.C.	Falconbridge Nickel Mines Limited	Magnetite and chalcocopyrite from open pit mines (37)	Pellet-feed concentrate(69/63) 727 Sinter-feed concentrate(61/58) 528	330	284
BYPRODUCT PRODUCERS					
Cominco Ltd. ⁶ ; Kimberly, B.C.	Publicly-owned company	Pyrrhotite flotation concentrates roasted for acid production; calcine sintered	Iron oxide sinter (63/63) is processed into pig iron at plant.	47 ⁷	28 ⁷
Falconbridge Nickel Mines Ltd.; Falconbridge, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates (57) treated	Calcine (67/67)	82	19
The International Nickel Co. of Canada, Ltd.; Copper Cliff, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates (57) treated	Pellets (68/68)	796	700
Quebec Iron and Titanium Corp.; mine at Lac Tio, Que.; electric smelter at Sorel, Quebec	Kennecott Copper Corp.; Gulf & Western Industries Inc. (The New Jersey Zinc Co.)	Ilmenite-hematite ore (40% Fe, 35% TiO ₂) from open pit mine at Lac Tio, beneficiated and calcined at Sorel	Ilmenite calcine 1,600 ^{e,8} electric smelted to TiO ₂ slag and various grades of desulphurized pig iron or remelt iron	1,600 ^{e,8}	1,600 ^{e,8}

Sources: Company reports, personal communications and others.

¹ Exclusive of Craigmont Mines Limited which ships magnetite byproduct concentrate to Western Canada coal preparation plants;

² Comprising 1,539,648 tons of superfluxed sinter, 86,393 tons of regular sinter, and 2,227 tons of crude ore shipped to the U.S.A. to be used as a food supplement in the livestock industry; Comprising 1,652,766 tons of superfluxed sinter, 142,566 tons of regular sinter, and 1,448 tons of crude ore (for special use); The assets of the Carol Pellet Company, which was established to pelletize concentrates produced by IOC, were acquired by IOC on December 31, 1970; ³ Operating subsidiary of Lykes-Youngstown Corporation; ⁴ Closed in 1972; ⁵ Sinter consumed in pig iron production; Ilmenite calcine smelted.

^e Estimated; - Nil.

CRUDE IRON ORE MINED IN CANADA, BY VARIETY AND GRADE, 1972

	Hematite		Magnetite		Siderite	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada	17,610,000 ¹	38.8	-	-	-	-
(Carol Operation)	15,250,920	32.09	-	-	-	-
Wabush Mines						
Labrador-Quebec						
Iron Ore Company of Canada	4,125,397	53.77 ²	-	-	-	-
(Schefferville)						
Quebec			3,060,000 ^e	24.6 ^e	-	-
Hilton Mine, The	14,208,501	33.7	-	-	-	-
Quebec Cartier Mining			4,314,587	19.25	2,748,121	34.01
Ontario			-	-	-	-
Adams Mine	-	-	-	-	-	-
Algoma Ore Division			-	-	-	-
Calland Ore Co.	2,274,740	54.42	4,831,004	23.70	-	-
Griffith Mine, The	-	-	1,718,000 ³	20.30 ³	-	-
Marmoraton Mining Co.	-	-				
Moose Mountain Mine	-	-	1,654,741	33.44	-	-
(National Steel)	-	-	3,990,831	24.37(dry)	-	-
Sherman Mine			-	-	-	-
Steep Rock Iron Mines	1,805,024 ^{e4}	54.87 ^e	-	-	-	-
British Columbia			1,035,115	34.59	-	-
Texada Mines Ltd.	-	-	1,100,326	37.19	-	-
Wesfrob Mines Limited						
			21,704,604	30.71	2,748,121	34.01
Total	55,274,582	38.19				

Source: Data supplied to Mineral Resources Branch by companies.

³Estimated; 858,793 tons grading 40.60% Fe to mill
⁴Analysis of shipments; 1,300,000 tons of direct ore (fed to the pellet plant
 after crushing and dry magnetic cobbing; ²Comprised of an estimated 59.00% Fe and 505,024 tons of raw ore (of lower grade necessitating prior
 beneficiation) grading 44.26% Fe.

^eEstimated; - Nil.

TABLE 14

CRUDE IRON ORE MINED IN CANADA, BY MINING METHOD, 1972

	Open Pit		Underground		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland						
Iron Ore Co. of Canada (Carol Operation)	17,610,000	38.8	-	-	17,610,000	38.8
Wabush Mines	15,250,920	33.09	-	-	15,250,920	33.09
Labrador-Quebec						
Iron Ore Co. of Canada (Schefferville)	4,125,397	53.77 ¹	-	-	4,125,397	53.77 ¹
Quebec						
Hilton Mine, The	3,060,000 ^e	24.6 ^e	-	-	3,060,000 ^e	24.6 ^e
Quebec Cartier Mining	14,208,501	33.7	-	-	14,208,501	33.7
Ontario						
Adams Mine	4,314,587	19.25	-	-	4,314,587	19.25
Algoma Ore Division	-	-	2,748,121	34.01	2,748,121	34.01
Caland Ore Co.	2,274,740	54.42	-	-	2,274,740	54.42
Griffith Mine, The	4,831,004	23.70	-	-	4,831,004	23.70
Marmoraton Mining Co.	1,718,000 ²	20.30 ²	-	-	1,718,000 ²	20.30 ²
Moose Mountain Mine (National Steel)	1,654,741	33.44	-	-	1,654,741	33.44
Sherman Mine	3,990,831	24.37(dry)	-	-	3,990,831	24.37(dry)
Steep Rock Iron Mines	1,805,024 ^{e3}	54.87 ^e	-	-	1,805,024 ^e	54.87 ^e
British Columbia						
Texada Mines Ltd.	-	-	1,035,115	34.59	1,035,115	34.59
Wesfrob Mines Limited	1,100,326	37.19	-	-	1,100,326	37.19
Total	75,944,071	34.40	3,783,236	34.17	79,727,307	34.39

Source: Data supplied to Mineral Resources Branch by companies.

¹ Analysis of shipments; ² Estimated: 858,793 tons grading 40.60% Fe to mill after crushing and dry magnetic cobbing;³ A small amount came from underground.^e Estimated; - Nil.

DISPOSITION OF CRUDE IRON ORE MINED IN CANADA, 1972

	For Direct Shipping		To Concentration Plant		To Concentration and Agglomeration Plant		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
NEWFOUNDLAND								
Iron Ore Co. of Canada	-	-	-	-	17,610,000	38.8	17,610,000	38.8
(Carol Operation)	-	-	-	-	15,250,920	33.09	15,250,920	33.09
Hobush Mines	-	-	-	-	-	-	-	-
LABRADOR-QUEBEC								
Iron Ore Co. of Canada	4,125,397	53.77 ¹	-	-	-	-	4,125,397	53.77 ¹
(Schefferville)	-	-	-	-	-	-	-	-
QUEBEC	-	-	-	-	3,060,000 ^e	24.6 ^e	3,060,000 ^e	24.6 ^e
Hilton Mine, The	-	-	-	-	-	-	14,208,501	33.7
Quebec Cartier Mining	-	-	14,208,501	33.7	-	-	-	-
ONTARIO								
Adams Mine	-	-	-	-	4,314,587	19.25	4,314,587	19.25
Algoma Ore Division	1,448 ²	34.96	-	-	2,746,673	34.01	2,746,673	34.01
Caled Ore Co.	-	-	-	-	2,274,740	54.42	2,274,740	54.42
Griffith Mine, The	-	-	-	-	4,831,004 ³	23.70 ³	4,831,004 ³	23.70 ³
Marmoraton Mining Co.	-	-	-	-	1,718,000 ³	20.30 ³	1,718,000 ³	20.30 ³
Moose Mountain Mine	-	-	-	-	-	-	-	-
(National Steel)	-	-	-	-	1,654,741	33.43	1,654,741	33.43
Sherman Mine	-	-	-	-	3,990,831	24.37	1,990,831	24.37
Steep Rock Iron Mines	-	-	-	-	1,300,000 ^{e,5}	59.00 ^e	1,805,024 ^e	54.87 ^e
BRITISH COLUMBIA								
Texada Mines Ltd.	-	-	1,035,115	34.59	-	-	1,035,115	34.59
Westrob Mines Ltd.	-	-	1,100,326	37.19	-	-	1,100,326	37.19
Total	4,126,845	53.76	16,848,966	34.30	58,751,496	33.07	79,727,307	34.39

Source: Data supplied to Mineral Resources Branch by companies.

1 Analysis of shipments; 2 For special use; 3 Estimated; 858,793 tons grading 40.60% Fe to mill after crushing and dry magnetic cobbing;

4 Almost all the concentrate produced was pelletized; 5 Crude ore shipped directly to plant without prior concentration.

e Estimated; - Nil.

TABLE 16

USABLE IRON ORE PRODUCED IN CANADA, BY TYPE OF PRODUCT, 1972

	Direct Shipping		Concentrates		Agglomerates		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Iron Ore								
Newfoundland								
Iron Ore Co. of Canada	-	-	643,106 ¹	62.45 ²	7,355,407	64.12 ³	7,998,513	63.99
(Carol Operation)	-	-	-	-	4,733,190	64.28	4,733,190	64.28
Wabush Mines	-	-	-	-	-	-	-	-
Labrador-Quebec								
Iron Ore Co. of Canada	4,125,397	53.77 ⁴	-	-	-	-	4,125,397	53.77 ⁴
(Schefferville)	-	-	-	-	-	-	-	-
Quebec								
Hilton Mine, The	-	-	-	-	886,455	67.12	886,455	67.12
Quebec Cartier Mining	-	-	6,157,534	64.36	-	-	6,157,534	64.36
Ontario								
Adams Mine	-	-	-	-	1,112,589	65.21	1,112,589	65.21
Algoma Ore Division	1,448 ⁵	34.96	-	-	1,763,794	63.02 ⁶	1,765,242	48.38
Gairland Ore Co.	-	-	794,939 ^e	56.40 ⁶	1,036,000 ^e	67.16	1,830,939 ^e	60.15
Griffith Mine, The	-	-	-	-	1,382,457	65.46	1,382,457	67.16
Marmoraton Mining Co.	-	-	-	-	459,233	65.46	459,233	65.46
Moose Mountain Mine	-	-	-	-	665,772 ⁷	62.18 ⁶	665,772 ⁷	62.18 ⁶
(National Steel)	-	-	-	-	1,056,323	64.97 ⁶	1,056,323	64.97 ⁶
Sherman Mine	-	-	-	-	1,445,400	62.64	1,445,400	62.64
Steep Rock Iron Mines	-	-	-	-	-	-	-	-
British Columbia	-	-	490,666	61.37	-	-	490,666	61.37
Texada Mines Ltd.	-	-	672,763	60.82	-	-	672,763	60.82
Wesfrob Mines Ltd.	-	-	-	-	-	-	-	-
Total Iron Ore	4,126,845	53.76	8,759,008	63.06	21,896,620	63.12	34,782,473	61.99
Byproduct Iron Ore								
Gomco Ltd.	-	-	-	-	28,259	63.0	28,259	63.0
(Kimberley, B.C.)	-	-	-	-	19,892	67.0 ^e	19,892	67.0 ^e
Falconbridge Nickel	-	-	-	-	700,000	67.6	700,000	67.6
Inco. (Copper Cliff, Ont.)	-	-	-	-	-	-	-	-
Total Byproduct Iron Ore	-	-	-	-	748,151	67.41	748,151	67.41
Total Usable Iron Ore Produced	4,126,845	53.76	8,759,008	63.06	22,644,771	63.26	35,530,624	62.10

Source: Data supplied to Mineral Resources Branch by companies.

¹ Difference between concentrate produced and concentrate sent to pellet plant; ² Analysis of concentrate to pellet plant; ³ Analysis of pellets shipped from Sept-Îles; ⁴ Analyses of shipments from Sept-Îles; ⁵ For special use; ⁶ Analysis of shipments; ⁷ Shipments taking into account change in stocks.

^e Estimated; - Nil.

TABLE 17

WASTE/ORE AND CONCENTRATION RATIOS AT CANADIAN IRON ORE MINES, 1972

	Open Pit Waste	Underground Waste	Iron Ore Mined (long tons)	Usable Iron Ore Produced	Waste/Ore Ratio	Waste-Usable Ore Ratio	Concentration Ratio	Fe Recovery (%)
Newfoundland								
Iron Ore Co. of Canada (Carol Operation)	5,441,044 ¹	-	17,610,000	7,998,512 ²	0.31	0.68	2.20	74.9
Wabush Mines	3,211,018	-	15,230,520	4,733,190	0.21	0.68	3.22	60.2
Labrador-Quebec								
Iron Ore Co. of Canada (Schefferville)	13,024,810 ¹	-	4,125,397	4,125,397	3.16	3.16	1.00	100.0
Quebec								
Hillion Mine, The	465,238	-	3,060,000 ³	886,455	0.15	0.52	3.45	79.0
Quebec Cartier Mining	4,340,000 ¹	-	14,208,301	6,157,534	0.31	0.70	2.31	82.7
Ontario								
Adams Mine	1,998,848	-	4,314,587	1,112,589	0.46	1.80	3.88	88.3 [*]
Algoma Ore Division	-	3,791	2,748,121	1,765,242	0.00	0.00	1.56	81.9
Calumet Ore Co.	-	-	2,274,740	1,830,939 ^e	1.85	2.30	1.24	88.9 [*]
Griffiths Mine, The	4,210,920	-	4,831,004 ³	1,382,457	0.32	1.13	3.49	81.0 ^e
Macdonald Mining Co.	1,559,499	-	1,718,000 ³	459,733	1.65	6.18	3.74	86.1 ^e
Moose Mountain Mine (National Steel)	442,848	-	1,654,741	665,772 ⁴	0.27	0.67	2.49	74.8 ^{e*}
Sherman Mine	2,842,760 ¹	-	3,990,831	1,056,323	0.71	2.69	3.78	90.5 ^{e*}
Steep Rock Iron Mines	14,694,772 ¹	-	1,805,024	1,445,400	8.14	10.17	1.25	91.8
British Columbia								
Exton Mines Ltd	-	-	1,035,115	490,666	0.00	0.00	2.11	84.1 [*]
Westfrob Mines Ltd	1,278,572 ¹	-	1,100,326	672,763	1.16	1.90	1.64	100.0 [*]

Source: Data supplied to Mineral Resources Branch by companies.

¹ Calculated from data supplied by companies in cubic yards by using a factor of 2.0; ² Pellets and concentrate; ³ Estimated; 858,793 tons grading 40.60% Fe to mill after crushing and dry magnetic cobbing; ⁴ Shipments with stocks taken into account.^e Estimated; -Nil; * Plants with flotation circuits (used to reduce silica thereby raising iron content; in the pellet feed circuit of Westfrob Mines the iron concentrate is cleaned of sulphide minerals).

TABLE 13

USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY TYPE OF PRODUCT, 1972

	Direct Shipping			Concentrates			Agglomerates			Total	
	Long Tons	% Fe		Long Tons	% Fe		Long Tons	% Fe		Long Tons	% Fe
		Natural			Natural			Natural			
Iron Ore											
Newfoundland											
Iron Ore Co. of Canada	-	-		577,580 ¹	62.64 ^e		7,985,290	64.12		8,562,870	64.02
(Carol Operation)	-	-		2,862	64.42 ^e		5,309,650	64.20		5,312,512	64.20
Wabush Mines											
Labrador-Quebec											
Iron Ore Co. of Canada											
(Schefferville)	5,046,156 ²	53.93		-	-		-	-		5,046,156 ²	53.93
Quebec											
Hillon Mine, The	-	-		-	-		877,544 ³	67.03		877,544 ³	67.03
Quebec Cartier Mining	-	-		7,431,917	64.35		-	-		7,431,917	64.35
Ontario											
Adams Mine	-	-		-	-		1,092,968	65.35		1,092,968	65.35
Algoma Ore Division	1,448 ⁴	34.96		-	-		1,795,332 ⁵	48.46		1,796,780 ⁵	48.45
Caland Ore Co.	-	-		783,289 ⁶	56.40		1,115,035	63.03		1,898,324	60.29
Griffith Mine, The	-	-		-	-		1,380,151	67.16		1,380,151	67.16
Marmorton Mining Co.	-	-		-	-		489,763	65.4		489,763	65.4
Moose Mountain Mine	-	-		-	-		641,041	62.18		641,041	62.18
(National Steel)	-	-		-	-		1,052,297	64.97		1,052,297	64.97
Sherman Mine	-	-		-	-		1,467,208	62.64		1,473,907	62.60
Steep Rock Iron Mines	-	-		6,699	53.83		-	-		-	-
British Columbia											
Texada Mines Ltd.	-	-		502,407	61.37		-	-		502,407	61.37
Wesfrob Mines Ltd.	-	-		614,029 ⁷	60.90		-	-		614,029 ⁷	60.90
Total Iron Ore	5,047,604	53.92		9,918,783	63.25		23,206,279	63.13		38,172,666	61.95
Byproduct Iron Ore											
Cominco Ltd.	-	-		-	-		27,589 ⁸	63 ^e		27,589 ⁸	63 ^e
(Kimberley, B. C.)	-	-		-	-		18,528	67 ^e		18,528	67 ^e
Falconbridge Nickel	-	-		-	-		700,000	67.6 ^e		700,000	67.6 ^e
Inco (Copper Cliff, Ont.)	-	-		-	-		-	-		-	-
Total Byproduct Iron Ore	-	-		-	-		746,117	67.4		746,117	67.4
Total Usable Iron Ore											
Shipped	5,047,604	53.92		9,918,783	63.25		23,952,396	63.26		38,918,783	62.05

Source: Data supplied to Mineral Resources Branch by companies.

1 Excluding 93,547 tons of chips grading an estimated 62.64% Fe. ² Including 93,547 tons of chips grading an estimated 62.64% Fe.
 3 Including 21,754 tons of chips and 547 tons of heavy media. ⁴ For special use. ⁵ Comprised of 1,652,766 tons of superfluxed sinter and 142,566 tons of regular sinter. ⁶ Run-of-mine upgraded slightly through process of crushing, screening and drying. According to Mesabi practice may be considered direct-shipping ore. ⁷ Comprised of 330,009 tons of pellet feed and 284,020 tons of sinter feed.
 8 Sinter consumed in production of pig iron.

- Nil; ^e Estimated

USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY DESTINATION, 1972

	Canada		United States		All Rail	Britain	ECSC	Japan	Other	Total
	All Rail	Other	Great Lakes	Other Ports						
Iron Ore										
<i>Newfoundland</i>										
Iron Ore Co. of Canada	-	-	-	-	-	14,590	470,820 ¹	92,170	-	577,580 ²
Bellefleur	-	744,790	2,178,580	2,658,030	-	938,300	752,690 ³	88,050	604,850 ⁴	7,985,290
Caroli Pellets	-	-	-	-	-	-	-	-	-	5,309,650
Mabush Mines	-	2,263,371	2,316,010	270,752	-	90,321	186,603 ⁵	-	182,593 ⁶	2,862
Pellets	-	2,862	-	-	-	-	-	-	-	-
Concentrate	-	-	-	-	-	-	-	-	-	-
<i>Labrador-Quebec</i>										
Iron Ore Co. of Canada	-	-	1,450,813	1,609,316	-	1,074,344	911,683 ⁷	-	-	5,046,156 ⁸
Direct-shipping	-	-	-	-	-	-	-	-	-	-
<i>Quebec</i>										
Hilton Mine, The (pellets)	469,526	-	-	-	408,018 ⁹	-	-	-	-	877,544
Cape Carlier Mining (conc.)	-	7,855	2,907,989	204,442	-	1,594,542	2,135,942 ¹⁰	557,060	44,087 ¹¹	7,431,917
<i>Ontario</i>										
Adams Mine (pellets)	712,645	-	-	-	380,323	-	-	-	-	1,092,968
Algoma Ore Division (sinter)	1,652,766	142,366	-	-	1,448 ¹²	-	-	-	-	1,796,780
Caland Ore Co.	-	-	1,115,035	-	-	-	-	-	-	1,115,035
Pellets	-	764	12,492	770,035	-	-	-	-	-	783,289
Concentrate	-	1,380,151	459,577	-	-	-	-	-	-	1,380,151
Griffith Mine, The (pellets)	-	-	-	-	30,186	-	-	-	-	489,763
Marmora Mining Co. (pellets)	-	-	-	-	-	-	-	-	-	641,041
Moore Mountain (pellets)	-	-	-	-	-	-	-	-	-	1,052,297
Northway Steel (pellets)	-	-	641,041	-	-	-	-	-	-	1,467,208
Sherman Mine (pellets)	1,052,297	-	-	-	-	-	-	-	-	6,699
Steep Rock Iron Mines	-	-	245,875	-	-	-	-	-	-	502,407
Pellets	-	6,699	-	-	-	-	-	-	-	614,029
Concentrate	-	-	-	-	-	-	-	-	-	430,071 ¹⁴
<i>British Columbia</i>										
Texada Mines (conc.)	-	-	166,199 ¹³	-	-	-	-	502,407	-	17,759 ¹⁵
Westrob Mines Ltd. (conc.)	-	-	-	-	-	-	-	430,071 ¹⁴	-	38,172,666
Total Iron Ore	3,894,697	5,775,420	12,084,953	4,908,739	819,975	3,732,097	4,457,738	1,649,758	849,289	27,589 ¹⁷
Byproduct Iron Ores	-	-	-	-	-	-	-	-	-	-
Cominco Ltd. ¹⁶ , Kimberley, B.C.	-	27,589 ¹⁷	-	-	-	-	-	-	-	18,528 ¹⁹
<i>Falconbridge Nickel</i>										
(calcine)	18,528 ¹⁹	-	-	-	-	-	-	-	-	700,000
Inco, Copper Cliff, Ont. (pellets)	148,000	-	552,000	-	-	-	-	-	-	746,117
Total Byproduct Iron Ore	166,528	27,589	552,000	-	-	-	-	-	-	-
Total Usable Iron Ore Shipped	4,061,225	5,803,009	12,636,953	4,908,739	819,975	3,732,097	4,457,738	1,649,758	849,289	38,918,783 ²⁰

Source: Data supplied to Mineral Resources Branch by companies.

¹to the Netherlands; ²excluding 99,547 tons of chips; ³comprising 357,700 tons to the Netherlands, 342,930 tons to Italy and 52,060 tons to Belgium; ⁴to Spain; ⁵to Italy; ⁶to Spain; ⁷to Italy; ⁸including 91,547 tons of chips from pellet plant; ⁹including 547 tons of media; ¹⁰comprising 27,797 tons to Finland and 16,290 tons to Grand Bahamas; ¹¹For special use; ¹²pellet and sinter feed; ¹³pellet and sinter feed; ¹⁴pellet feed to Australia for use in sink-float; ¹⁵closed in 1972; ¹⁶sinter consumption in pig iron production (20,210 net tons produced); ¹⁷closed in 1972; ¹⁸excluding about 26,000 tons of reduced iron pellets from Iron-Nickel Refinery (also closed in 1972); ¹⁹of which 29,054,549 tons are exports and 9,864,234 tons are domestic shipments.

TABLE 20

STOCKS OF USABLE IRON ORE AT MINES AND SHIPPING PORTS IN CANADA, 1971-72

(long tons)

	December 31 1971	December 31 1972	Change in Stocks
Newfoundland			
Iron Ore Co. of Canada,			
Carol Operation			
At Sept-Iles:			
Concentrates	29,336	21,894	-7,442
Pellets	1,404,977	183,607	-1,221,370
At Labrador City:			
Concentrates	145,914	164,960	+ 19,046
Pellets	273,433	864,920	+ 591,487
Wabush Mines	1,072,880	496,420	- 576,460
Wabana Mines ¹	55,000	55,000	-
Labrador-Quebec			
Iron Ore Co. of Canada,			
Schefferville (at Sept Iles)	3,356,887	2,572,577	-784,310
Quebec			
Hilton Mine, The	84,725	94,346	+9,621
Quebec Cartier Mining Co.	1,892,963	618,580	-1,274,383
Ontario			
Adams Mine	14,000	88,992	+74,992
Algoma Ore Division	129,121	97,583	-31,538
Caland Ore Co. Ltd.	720,451	907,682	+ 187,231
Griffith Mine, The ²	5,724	8,030	+2,306
Marmoraton Mining Co.	53,134	23,997	-29,137
Moose Mountain Mine			
(National Steel)	50,491	75,222	+24,731
Sherman Mine	1,775	5,801	+ 4,026
Steep Rock Iron Mines Ltd.	1,057,108	963,738	-93,370
British Columbia			
Texada Mines Ltd.	103,559	104,298	+739
Wesfrob Mines Limited	55,603	114,337	+58,734
Total	10,507,081	7,461,984	-3,045,097

Source: Data supplied to Mineral Resources Branch by companies.

¹ Ceased operations June 1966; shipped from stockpile 1967-69; no ore shipped for iron making purposes in 1970-72; ² Excluding stocks at Thunder Bay terminal of Valley Camp Limited.

- Nil; ^e Estimated.

TABLE 21

ANALYSES OF CANADIAN IRON ORE SHIPMENTS IN 1972

	Shipments (long wet tons)	Natural Fe	Fe	P	Dry Analysis %				CaO	MgO	S	Loss by		Size Range
					SiO ₂	Al ₂ O ₃	Mn	TiO ₂				Ignition	Moisture	
Newfoundland														
Iron Ore Co. of Canada,														
Carol Operation														
Carol Pellets	7,985,290	64.117	65.173	0.009	5.47	0.199	0.40	-	-	-	-	-	-	1.62
Carol Conc.	671,127	62.641	65.523	0.009	5.00	0.206	0.31	-	-	-	-	-	-	4.40
Total Carol Operation	8,656,417	64.002	65.200	0.009	5.43	0.199	0.39	-	-	-	-	-	-	1.84
Wabush Mines														
Pellets	5,312,512	64.20	65.66	-	2.96	1.85	-	-	-	-	-	-	-	2.23
Quebec-Labrador														
Quebec														
Iron Ore Co. of Canada														
(Schefferville)	2,458,891	52.179	57.431	0.092	10.22	1.347	1.10	-	-	-	-	-	-	9.15
Non-Bessemer														
Manganiferous														
Total, Quebec	2,458,891	52.179	57.431	0.092	10.22	1.347	1.10	-	-	-	-	-	-	9.15
Labrador														
Iron Ore Co. of Canada														
(Schefferville)	2,493,718	55.340	60.923	0.064	6.92	0.139	1.59	-	-	-	-	-	-	9.16
Non-Bessemer														
Manganiferous														
Total, Labrador	2,493,718	55.340	60.923	0.064	6.92	0.139	1.59	-	-	-	-	-	-	9.16
Total, IOC (Schefferville)	4,952,609 ²	53.771	59.190	0.078	8.56	0.739	1.35	-	-	-	-	-	-	9.16

TABLE 21 (cont'd)

	Shipments (long wet tons)	Natural Fe	Fe		P	SiO ₂	Dry Analysis %			CaO	MgO	S	Loss by Ignition	Moisture	Size Range
			Fe	P			Mn	Al ₂ O ₃							
Quebec															
Quebec Cartier Mining Co. Concentrate	7,431,917	64.35	66.00	0.025	5.00	-	0.75	-	-	-	-	-	-	2.49	-10+200 mesh
Hilton Mine, The Hilton Pellets	855,238	67.12	67.19	0.007	2.02	0.077	0.28	0.21	1.31	0.006	-	-	-	0.13	-5/8"+ 3/4"
Hilton Chips	21,758	63.74	67.31	0.007	1.87	0.077	0.23	0.20	1.27	0.016	-	-	-	5.32	3/4"
Hilton Media	547	61.46	66.44	0.008	2.84	0.070	0.25	0.25	1.85	0.56	-	-	-	7.52	64% -325 mesh
Total, Hilton	877,544	67.03	67.23	0.007	2.02	0.077	0.28	0.21	1.31	0.007	-	-	-	0.26	-
Ontario															
Adams Mine Adams Pellets	1,092,968	65.35	65.71	0.018	4.89	0.10	0.12	0.22	0.47	0.001	-	-	-	0.55	96% + 3/4"
Algoma Ore Division Algoma Sinter (regular)	142,566	49.90	50.37	0.020	11.31	2.81	1.58	4.00	7.12	0.084	1.19	-	-	0.94	-
Algoma Sinter (super-fluxed)	1,652,766	48.32	48.32	0.025	9.75	2.63	1.58	9.31	7.92	0.092	1.19	-	-	NH	-
Algoma Grude	1,448 ³	34.96	-	-	-	-	-	-	-	-	-	-	-	-	-
Total, Algoma	1,796,780	48.45	48.48	0.025	9.90	2.64	1.58	8.89	7.86	0.091	1.19	-	-	0.07	-
Caland Ore Company Limited															
Caland Pellets	1,115,035	62.02	63.40	0.010	6.14	0.30	0.98	0.20	0.25	-	-	-	-	-	-3/4" + 3/8"
Warren Coarse	783,289	56.40	58.67	0.022	5.15	0.24	0.54	0.18	0.22	-	-	-	-	-	-2" + 3/8"
Total, Caland	1,898,324	60.29	61.45	0.015	5.73	0.28	0.98	0.19	0.24	-	-	-	-	1.92 (in 1971)	-
Griffith Mine, The															
Pellets	1,380,151	67.16	67.19	0.02	3.11	0.05	0.39	-	-	-	-	-	-	0.05	8 3/4"-5/8" + 3/8"
Kirk Pellets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marmoraton Mining Co.															
Marmoraton Pellets	489,763	65.4	65.4	0.007	3.61	0.08	0.67	1.42	0.76	0.013	-	-	-	-	-1" + 6 mesh
National Steel Corporation															
of Canada, Ltd., Moose Mt. Pellets	587,441	62.540	63.390	0.009	8.03	0.015	0.59	-	-	-	-	-	-	1.35	98% + 3/4"
Chips	53,600	58.173	61.014	0.011	11.29	0.015	0.57	-	-	-	-	-	-	4.65	82% + 3/4"
Total, National Steel	641,041	62.175	63.197	0.009	8.29	0.015	0.59	-	-	-	-	-	-	1.61	91% + 3/4"

TABLE 21 (cont'd)

	Shipments (long wet tons)	Natural Fe	Dry Analysis %					Loss by Ignition	Moisture	Size Range		
			Fe	SiO ₂	Mn	Al ₂ O ₃	CaO				MgO	
Shoeman Mine Pellets	1,052,297	64.97	65.55	0.018	5.54	-	0.25	0.16	0.29	0.002	0.16	-5/8" + 1/2"
Steep Rock Iron Mines Ltd. S.R. Pellets	1,467,208	62.64	62.86	0.015	7.37	0.24	1.68	0.15	0.23	0.007	-	-1" + 1/2"
S.R. Fines	6,699	53.83	57.96	-	7.15	-	-	-	-	0.050	-	-4 mesh
S.R. Coarse												
Total, Steep Rock	1,473,907	62.60	62.86	0.015	7.37	0.24	0.68	0.15	0.23	0.007	-	0.36
British Columbia Texada Mines Ltd. Magnetite conc.	502,407	61.37	65.01	0.010	4.26	0.16	0.76	2.30	0.57	0.41	-	-10 mesh
Waeirob Mines Limited Sinter Feed conc.	284,020	58.37	61.26	0.02	6.16	-	1.37	-	-	1.00	-	30% - 149 micron max. 4000 micron
Pellet Feed Conc.	330,009	63.07	69.35	0.01	1.44	-	0.51	-	-	0.28	-	80% - 44 micron max. 1680 micron
Total, Waeirob Mines	614,029	60.90	65.52	0.02	3.68	-	0.92	-	-	0.63	-	7.05

Source: Data supplied to Minerals Resources Branch by companies.

1 Including 93,547 tons of chips. 2 Excluding 93,547 tons of chips. 3 For special use.

- Nil, not available or not applicable; e Estimated.

Canada, Consumption of Iron-bearing Materials at Iron-steel Plants¹, 1972

	In Other Plants ²	pig Iron, Furnaces ³	Steel Furnaces ³	Total in Furnaces ³
			(long tons)	
Iron Ore				
Grade and concentrates	141,873	113,611	46,419	360,299
Pellets	215,208	8,943,077	170,087	9,113,165
Sinter from mines	98,862	1,719,608	—	1,719,608
Subtotal	455,943	10,996,296	216,406	11,213,002
Sinter Produced at Steel Plant		911,022 ⁴	143	913,165
Total	455,943	11,909,318	216,849	12,126,167 ⁵
% Fe	59.80	61.74	66.67	61.83
Other Iron-bearing Materials				
Flux dust	114,190	—	394	249,439
Scale, sponge iron, etc.	307,845	249,045	394	249,439
Total	422,035	249,045	71.42	47.34
% Fe	63.37	47.30		

¹Source: Company data supplied to Mineral Development Section.

²All integrated producers; excludes Quebec Iron and Aluminum Corp. Sinter plant located at steel works consumes new iron ore "base iron" as well as other iron-bearing materials. Blast and electric furnaces produced mostly from 100% Fe iron ore and 60,035 tons of other iron-bearing materials (except for the other large source of iron units). Including any recycled iron-bearing materials. Total iron ore consumption of "new iron ore" in all estimated 11,669 million tons comprising 11,213 million tons of iron ore and, neglecting losses of Fe in waste, the to sintering, 0.056 million tons of iron ore.

— M.L.

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PREFACE

The bulletin was prepared to continue the Canadian iron ore industry Statistics series that was developed for the Mineral Information Bulletin published from 1955 through 1970. The statistical data, when used in conjunction with the Iron Ore chapter of the Canadian Minerals Yearbook, present a comprehensive review of the iron ore industry for the years 1975 and 1976.

The data used in the compilation of the statistical tables were supplied to Mineral Development Sector by individual firms within the Canadian iron ore industry. Their co-operation and prompt responses to our requests are greatly appreciated.

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1976 Statistics

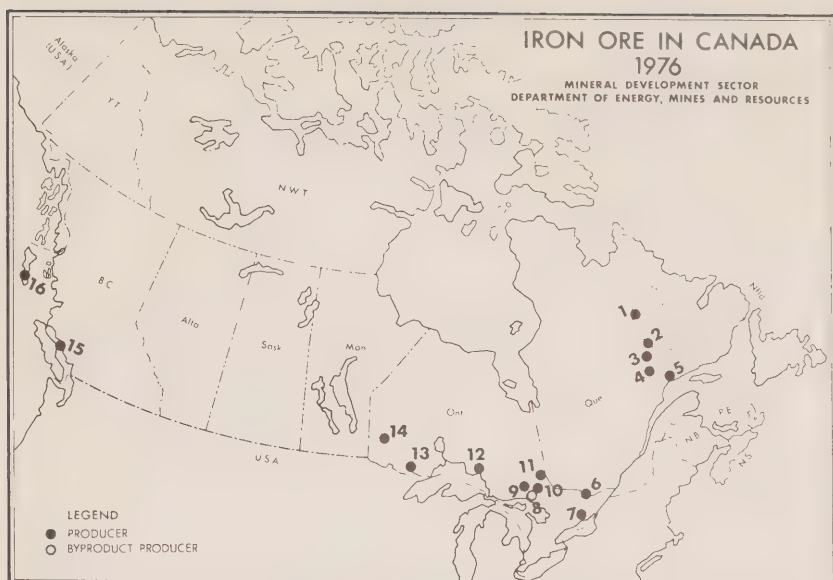
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**1975 STATISTICAL REVIEW,
BY COMPANY**



PRODUCERS

(numbers refer to numbers on map)

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|---|--|

BYPRODUCT PRODUCER

8. The International Nickel Company of Canada, Limited (Copper Cliff)

TABLE 1
CANADA, IRON ORE PRODUCERS, 1974 AND 1975

Company and Property Location	Participating Companies	Material Mined &/or Treated 1975	Product Shipped 1975	Shipments 1974	1975
		(% Fe natural)	(% Fe dry/wet)	(000 wet tonnes)	
Adams Mine; Boston Twp., near Kirkland Lake, Ont.	Dominion Foundries and Steel, Ltd.; managed by Cliffs of Canada Limited, a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company	Magnetite from open pit mine (21)	Pellets (65/65)	1 160	1 153
Algoma Ore Division of The Algoma Steel Corp. Ltd.; mines and sinter plant near Wawa, Ont.	Wholly-owned	Siderite from open pit and underground mine (33)	Siderite sinter (48/48)	2 110	1 518 ¹
Caland Ore Co., Ltd.; east arm of Steep Rock Lake, near Atikokan, Ont.	Inland Steel Co.	Hematite and goethite from open pit mine (54)	Pellets (63/63) Concentrate (58/55) Direct-shipping ore ² (58/54)	1 051 945 —	701 813 —
Griffith Mine, The; Bruce Lake, 56 kilometres south of Red Lake, Ont.	The Steel Co. of Canada, Ltd.; managed by Pickands Mather & Co.	Magnetite from open pit mine (23)	Pellets (67/67) (sponge iron)	1 594 —	1 471 ³ 17
Hilton Mines, The; near Shawville, Quebec, 64 kilometres northwest of Ottawa, Ont.	The Steel Co. of Canada, Ltd., 50%; Jones & Laughlin Steel Corp., 25%; Pickands Mather & Co. (managing agent), 25%	Magnetite from open pit mine (21)	Pellets (66/66)	945	785

Iron Ore Company of Canada: Schefferville, Quebec-Labrador operation	Labrador Mining and Exploration Ltd., 3.84%; Hollinger Mines Ltd., 8.27%; The Hanna Mining Co. (managing agent), 27.24%; Bethlehem Steel Corp. 19.42%; Armco Steel Corp. 6.06%; Lykes-Youngstown Corp., 6.06%; National Steel Corp., 18.20%; Republic Steel Corp., 6.06%; Wheeling-Pittsburgh Steel Corp., 4.86%;	Hematite-goethite-limonite from open pit mines (54)	Direct-shipping ore (59/54) Treat ore (54/50)	6 673	4 134
	Carol Lake, Labrador operation	Specular hematite and magnetite from open pit mines (39)	Pellets (64/64) Concentrate (63/62)	7 694 4 514	9 162 6 462
Sept-Iles, Que., pellet operation		Hematite-goethite-limonite from open pit mines, Schefferville area (50)	Pellets (63/61)	1 915	3 005
Marmoraton Mining Co., Division of Bethlehem Chile Iron Mines, Company; near Marmora, Ont.	Bethlehem Steel Corp.	Magnetite from open pit mine (42)	Pellets (64/64)	528	282
National Steel Corporation of Canada, Ltd., Moose Mountain Mine; Sudbury area, 32 kilometres north of Capreol, Ont.	National Steel Corp. (The Hanna Mining Co. is managing agent)	Magnetite from open pit mine (33)	Pellets (63/63)	697	673
Quebec Cartier Mining Company; Gagnon, Quebec	United States Steel Corp.	Specular hematite from open pit mine (35) Specular hematite from open pit mine (34)	Specular hematite concentrate (66/64) Specular hematite ⁴ concentrate (66/64)	8 586	8 267 —

Table 1 (cont'd)

Company and Property Location	Participating Companies	Material Mined &/or Treated 1975	Product Shipped 1975	Shipments	
				1974	1975
		(% Fe natural)	(% Fe dry/wet)	(000 wet tonnes)	
Sherman Mine; near Temagami, Ont.	Dominion Foundries and Steel Limited, 90%; Tetapaga Mining Company (wholly-owned subsidiary of the Cleveland-Cliffs Iron Company), 10%. The operation and management of the mine is by Cliffs of Canada Limited, also a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company.	Magnetite from open pit mines (20)	Pellets (66/65)	1 046	1 117
Steep Rock Iron Mines Ltd.; Steep Rock Lake, north of Atikokan, Ont.	Publicly-owned company	Hematite-goethite from open pit mine (55)	Concentrate (58/54) Pellets (63/62)	12 1 363	5 1 122
Texada Mines Ltd.; Texada Island, B.C.	Kaiser Aluminum and Chemical Corp.	Magnetite and chalcopyrite from underground mine (31)	Magnetite concentrate (64/60)	331	312
Wabush Mines; Scully Mine includes mine and concentrator at Wabush, Labrador; Pointe Noire Division includes pelletizing plant at Pointe Noire, Que.	The Steel Co. of Canada Ltd., 25.6%; Dominion Foundries and Steel, Ltd., 16.4%; Youngstown Sheet and Tube Company, 15.6%; Inland Steel Co., 10.2%; Interlake, Inc., 10.2%; Wheeling-Pittsburgh Steel Corp., 10.2%; Finisider of Italy, 6.6%; and Pickands Mather & Co. (managing agent), 5.2%	Specular hematite and some magnetite from open pit mine (35)	Pellets (66/64) concentrate (66/64)	5 532 18	3 259 —

Wesfrob Mines Limited; Tasu Harbours, Moresby Is., Queen Charlotte Is., B.C.	Falconbridge Nickel Mines Limited	Magnetite and chalcopyrite from open pit mines (40)	Pellet-feed con- centrate (69/63) Sinter-feed con- centrate (60/58)	627 420	610 411
Byproduct Producers					
The International Nickel Co. of Canada, Ltd.; Copper Cliff, Ont.	Publicly-owned company	Pyrrhotite flotation concentrate (57) treated	Pellets (66/65)	608	517
Quebec Iron and Titanium Corp.; mine at Lac Tio, Que.; electric smelter at Sorel, Quebec	Kennecott Copper Corp.; Gulf & Western Indus- tries, Inc. (The New Jersey Zinc Co.)	Ilmenite-hematite ore (40% Fe, 35% TiO ₂) from open pit mine at Lac Tio, beneficiated and calcined at Sorel	Ilmenite calcine electric smelted to TiO ₂ slag and various grades of desulphurized pig iron ore remelt iron	508	4215

Sources: Company reports, personal communication.

- 1 Includes 208 825 tonnes of regular sinter, 1 307 845 tonnes of superfluxed sinter, 1 264 tonnes of crude ore shipped as food supplement to livestock industry. 2 Excludes 246 978 tonnes of direct-shipping ore sent to Steep Rock Iron Mines Ltd.
3 Includes 36 915 tonnes of oxide pellets consumed in the SL-RN direct reduction kiln, to produce 14 970 tonnes of sponge iron. 4 Mount Wright commenced production in late-1975, but no shipments were made in 1975. 5 Pig iron. — Nil.

TABLE 2
CRUDE IRON ORE MINED IN CANADA, BY VARIETY AND GRADE, 1975

	Hemanite		Magnetite		Siderite	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada	38 342 937	39.20	—	—	—	—
Carol Division	9 279 225	34.93	—	—	—	—
Wabush Mines						
Labrador — Quebec						
Iron Ore Company of Canada	4 680 330	54.09 ¹	—	—	—	—
Schefferville — Direct - Shipping	6 516 379	50.60 ^{1,2}	—	—	—	—
— Treat ore						
Quebec			3 102 444	20.70	—	—
Hilton Mine, The	—	—	—	—	—	—
Quebec Cartier Mining Company	—	—	—	—	—	—
Gagnon	16 889 668	35.10	—	—	—	—
Mount Wright	1 084 122	34.00	—	—	—	—
Ontario						
Adams Mine	—	—	4 354 926	20.71	—	—
Algoma Ore Division	—	—	—	—	2 589 197	33.10
Caland Ore Co.	1 385 656	54.32	—	—	—	—
Griffith Mine, The	—	—	5 272 049	23.49	—	—
Marmaraton Mining Co.	—	—	876 626 ³	41.88 ⁴	—	—
Moose Mountain Mine	—	—	1 646 404	32.56	—	—
(National Steel)						
Sherman Mine	—	—	4 327 292	19.52	—	—
Steep Rock Iron Mines	1 281 523	55.38	—	—	—	—
British Columbia						
Texada Mines Ltd.	—	—	871 439	31.17	—	—
Wesfrob Mines Limited	—	—	1 937 657	39.29	—	—
Total	79 454 840	40.10	22 388 837	24.85	2 589 197	33.10

Source: Data supplied to Mineral Development Sector by companies.

¹ Analysis of shipments.

² Treat ore for Sept-Iles Division concentrator and pelletizing operations.

³ Cobber product.

⁴ Grade of cobber product.

— Nil.

TABLE 3
CANADA, CRUDE IRON ORE MINED, BY MINING METHOD, 1975

	Open Pit		Underground		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada						
Carol Division	38 342 937	39.20	—	—	38 342 937	39.20
Wabush Mines	9 279 225	34.93	—	—	9 279 225	34.93
Labrador — Quebec						
Iron Ore Company of Canada						
Schefferville — Direct — shipping	4 680 330	54.09 ¹	—	—	4 680 330	54.09
— Treat ore	6 516 379	50.60 ^{1,2}	—	—	6 516 379	50.60
Quebec						
Hilton Mine, The	3 102 444	20.70	—	—	3 102 444	20.70
Quebec Cartier Mining Company						
Gagnon	16 884 668	35.10	—	—	16 884 668	35.10
Mount Wright	1 084 122	34.00	—	—	1 084 122	34.00
Ontario						
Adams Mine	4 354 926	20.71	—	—	4 354 926	20.71
Algoma Ore Division	—	—	2 589 197	33.10	2 589 197	33.10
Caldan Ore Co.	1 385 656	54.32 ³	—	—	1 385 656	54.32
Griffith Mine, The	5 272 049	23.49	—	—	5 272 049	23.49
Marmoraton Mining Co.	876 626 ⁴	41.88 ⁵	—	—	876 626	41.88
Moose Mountain Mine (National Steel)	1 646 404	32.56	—	—	1 646 404	32.56
Sherman Mine	4 327 292	19.52	—	—	4 327 292	19.52
Steep Rock Iron Mines	1 397 593 ⁶	55.31	—	—	1 397 593	55.31
British Columbia						
Texada Mines Ltd.	686 585	31.17	184 854	31.17	871 439	31.17
Wesfrob Mines Limited	1 884 919	39.14	52 738	44.51	1 937 657	39.29
Total	101 722 155	36.77	2 826 789	33.19	104 548 944	36.67

Source: Data supplied to Mineral Development Sector.

¹ Analysis of shipments.

² Treat ore for Sept-Iles Division concentrator and pellet plant.

³ Excludes direct-shipping ore sent to Steep Rock Iron Mines Ltd.

⁴ Cobber product.

⁵ Grade of cobber.

⁶ Includes 116 070 tonnes from Caland Ore Co. Ltd.

— Nil.

TABLE 4
DISPOSITION OF CRUDE IRON ORE MINED IN CANADA, 1975

	For Direct Shipping		To Concentration Plant		To Concentration and Agglomeration Plant		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland								
Iron Ore Company of Canada								
Carol Division	—	—	—	—	38 342 937	39.20	38 342 937	39.20
Wabush Mines	—	—	—	—	9 279 225	34.93	9 279 225	34.93
Labrador — Quebec								
Iron Ore Company of Canada								
Schefferville Division	4 680 330	54.09	—	—	—	—	4 680 330	54.09
Sept-Iles Division	—	—	—	—	6 516 379	50.60 ^{1,2}	6 516 379	50.60
Quebec								
Hilton Mine, The	—	—	—	—	3 102 444	20.70	3 102 444	20.70
Quebec Cartier Mining Company								
Gagnon	—	—	16 884 668	35.10	—	—	16 884 668	35.10
Mount Wright	—	—	1 084 122	34.00	—	—	1 084 122	34.00
Ontario								
Adams Mine	1 264	34.20	—	—	4 354 926	20.71	4 354 926	20.71
Algoma Ore Division	—	—	—	—	2 587 933	33.10	2 589 197	33.10
Caland Ore Co.	—	—	—	—	1 385 656 ³	54.32	1 385 656	54.32
Griffith Mine, The	—	—	—	—	5 272 049	23.49	5 272 049	23.49
Marmoraton Mining Co.	—	—	—	—	876 626 ⁴	41.88 ⁵	876 626	41.88
Moose Mountain Mine	—	—	—	—	1 646 404	32.56	1 646 404	32.56
(National Steel)								
Sherman Mine	—	—	—	—	4 327 292	19.52	4 327 292	19.52
Steep Rock Iron Mines	—	—	528 073	49.15	869 520 ⁶	59.06	1 397 593	55.31
British Columbia								
Texada Mines Ltd.	—	—	871 439	31.17	—	—	871 439	31.17
Wesfrob Mines Limited	—	—	1 937 657	39.29	—	—	1 937 657	39.29
Total	4 681 594	54.08	21 305 959	35.61	78 561 391	35.92	104 548 944	36.67

Source: Data supplied to Mineral Development Sector by companies.

¹Analysis of shipments. ²Treat ore for Sept-Iles Division concentrator and pellet plant. ³Excludes direct-shipping ore sent to Steep Rock Iron Mines Ltd. ⁴Copper product. ⁵Grade of clobber. ⁶Includes 116,070 tonnes from Caland Ore Co. Ltd. — Nil.

TABLE 5
USABLE IRON ORE PRODUCED IN CANADA, BY TYPE OF PRODUCT, 1975

	Direct-Shipping		Concentrates		Agglomerates		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland								
Iron Ore Company of Canada	—	—	6 325 933	63.10 ¹	9,670 328	64.00 ²	15 996 261	63.64
Carol Division	—	—	—	—	2,990,584	64.08	2 990 584	64.08
Wabush Mines								
Labrador — Quebec								
Iron Ore Company of Canada	4 680 330	54.10	—	—	—	—	4 680 330	54.10 ³
Schefferville Division	—	—	—	—	3 204 784	62.40	3 204 784	62.40
Sept-Iles Division								
Quebec								
Hilton Mine, The	—	—	515	62.49	813 122	65.98	813 637	65.98
Quebec Cartier Mining								
Gagnon	—	—	7 981 048	63.90	—	—	7 981 048	63.90
Mount Wright	—	—	422 676	63.90	—	—	422 676	63.90
Ontario								
Adams Mine	—	—	—	—	1 158 307	64.95	1 158 307	64.95
Algoma Ore Division	1 264	34.20	—	—	1 641 932	48.50	1 643 196	48.50
Caland Ore Co.	—	—	390 880	56.00	835 691	63.13	1 226 571	60.86
Griffith Mine, The	—	—	—	—	1 472 211	66.72	1 472 211	66.72
Marmoraton Mining Co.	—	—	—	—	486 978	64.00	486 978	64.00
Moose Mountain Mine	—	—	—	—	658 360	62.66	658 360	62.66
(National Steel)								
Sherman Mine	—	—	—	—	1 117 703	65.06	1 117 703 ⁴	65.06
Steep Rock Iron Mines	4 838	50.16	—	—	1 135 589	62.30	1 140 427	62.25
British Columbia								
Texada Mines Ltd.	—	—	311 844	60.32	—	—	311 844	60.32
Westfrob Mines Limited	—	—	1 021 655	65.78	—	—	1 021 655	65.78
Total Iron Ore	4 686 432	54.09	16 454 551	63.45	25 185 589	62.97	46 326 572	62.24
Byproduct Iron Ore								
Inco (Copper Cliff, Ont.)	—	—	—	—	541 461	64.90	541 461	64.90
Total Usable Iron	4 686 432	54.09	16 454 551	63.45	25 727 050	63.01	46 868 033	62.27
Ore Produced								

Source: Data supplied to Mineral Development Sector by companies.

¹Difference between concentrate produced and concentrate sent to pellet plant. ²Dry analysis. ³Analysis of shipments.

⁴Includes 11 691 tonnes of mill scale grading 70.00 per cent Fe. — Nil.

TABLE 6

WASTE/ORE CONCENTRATION RATIOS AT CANADIAN IRON ORE MINES, 1975

	Open pit Waste	Underground Waste	Iron Ore Mined	Usable Iron Ore Produced	Waste/Ore Ratio	Waste/Usable Ore Ratio	Concentration Ratio	Fe Recovery
	(tonnes)							
Newfoundland								
Iron Ore Company of Canada								
Carol Division	10 701 784 ¹	—	38 342 937	15 996 262 ²	0.279	0.669	2.397	0.677
Wabush Mines	4 167 977	—	9 279 225	2 990 584	0.449	1.394	3.103	0.591
Labrador — Quebec								
Iron Ore Company of Canada								
Schefferville	21 750 256 ¹	—	4 680 330 ³ 6 516 379 ⁴	4 680 330 3 204 785	1.943	2.758	1.000 2.033	1.000 0.606
Quebec								
Hilton Mine, The	766 586	—	3 102 444	813 637	0.247	0.942	3.813	0.836
Quebec Cartier Mining Company								
Gagnon	1 635 836 ¹	—	16 894 668	7 981 048	0.097	0.205	2.116	0.861
Mount Wright	5 572 001 ¹	—	1 084 122	422 676	5.140	13.183	2.565	0.733
Ontario								
Adams Mine	1 997 513	—	4 354 926	1 158 307	0.459	1.725	3.760	0.834
Algoma Ore Division	—	207 220	2 589 196	1 643 196	0.080	0.126	1.576	0.930
Caldan Ore Co. ⁵	7 485 953	—	1 385 656	1 226 571	5.402	6.103	1.130	0.992 ⁶
Griffith Mine, The	6 123 088	—	5 272 049	1 472 211	1.161	4.159	3.581	0.793
Marmoraton Mining Co.	2 560 791	—	1 753 252 ⁶	486 978	1.461	5.259	3.600	0.849 ⁶
Moose Mountain Mine	548 174 ¹	—	1 646 403	658 360	0.333	0.833	2.502	0.770
(National Steel)								
Sherman Mine	2 410 866	—	4 392 292	1 117 703	0.557	2.157	3.872	0.861
Steep Rock Iron Mines	11 949 929	—	1 397 593 ⁷	1 140 427 ⁷	8.550	10.478	1.225 ⁸	0.918 ⁸
British Columbia								
Texada Mines Ltd.	12 256	2 031	871 439	311 844	0.016	0.046	2.794	0.693
Wesfrob Mines Limited	1 074 324	20 974	1 937 657	102 654	0.554	1.072	1.896	0.883

Source: Data supplied to Mineral Development Sector by companies.

¹ Calculated from data supplied by companies in cubic metres by using a factor of 2,658 tonnes equals 1 cubic metre.³ Schefferville⁴ Schefferville treat ore. ⁵ Excludes direct-shipping ore sent to Steep Rock Iron Mines Ltd. ⁶ Estimated tonnage of clobber product multiplied by a factor of 2. ⁷ Includes 116,070 tonnes of direct-shipping ore from Caldand Ore Co. Ltd.⁸ Estimated; — Nil.

TABLE 7
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY TYPE OF PRODUCT, 1975

	Direct-Shipping		Concentrates		Agglomerates		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland								
Iron Ore Company of Canada								
Carol Division	—	—	6 461 743	63.15	9 161 882	63.96	15 623 625	63.62
Wabush Mines	—	—	—	—	3 253 224	64.11	3 253 224	64.11
Labrador - Quebec								
Iron Ore Company of Canada								
Knob Lake Division	4 134 794	54.10	—	—	—	—	4 134 794	54.10
Sept Iles Division	—	—	—	—	3 005 396	62.13	3 005 396	62.13
Quebec								
Hilton Mine, The	—	—	—	—	785 398	65.86	785 398 ¹	65.86
Quebec Carrier Mining Company	—	—	—	—	—	—	—	—
Gagnon	—	—	8 266 558	63.93	—	—	8 266 558	63.93
Ontario								
Adams Mine	—	—	—	—	1 153 648	64.95	1 153 648	64.95
Algoma Ore Division	1 264	34.20	—	—	1 516 670	48.32	1 517 934 ²	48.32
Caland Ore Co.	—	—	700 968	55.30	818 061	63.13	1 519 029 ³	59.52
Griffith Mine, The	—	—	—	—	1 470 918	66.72	1 470 918 ⁴	66.72
Marmoraton Mining Co.	—	—	—	—	282 391	64.00	282 391 ⁵	64.00
Moose Mountain Mine	—	—	—	—	672 682	62.27	672 682 ⁶	62.27
(National Steel)	—	—	—	—	—	—	—	—
Sherman Mine	—	—	—	—	1 116 663	65.06	1 116 663 ⁷	65.06
Steep Rock Iron Mines	4 838	50.16	—	—	1 121 936	62.30	1 126 775 ⁸	62.25
British Columbia								
Texada Mines Ltd.	—	—	311 844	60.32	—	—	311 844	60.32
Westrob Mines Ltd.	—	—	1 021 654	65.78	—	—	1 021 654	65.78
Total Iron Ore								
Byproduct Iron Ore								
Inco (Copper Cliff, Ont.)	—	—	—	—	517 394	64.90	517 394	64.90
Total Usable Iron Ore Shipped	4 140 896	54.09	16 762 767	63.31	24 881 264	63.00	45 784 927	62.31

Source: Data supplied to Mineral Development Sector by companies.

¹Includes 775 tonnes of concentrates for heavy media. ²Includes 323 tonnes of sinter shipped to United States for special use.
³Includes 36 915 tonnes of pellets shipped to the S.L.R.N. Kin at the Griffith Mine, for sponge iron production. ⁴Includes 2 226 tonnes of concentrates for heavy media. ⁵Includes 52 676 tonnes of chips grading 57.69 per cent Fe. ⁶Includes 11 691 tonnes of mill scale grading 70.00 per cent Fe. ⁷Includes 116 070 tonnes of direct-shipping ore from Caland Ore Co. Ltd. and consumed during agglomerating.
⁸Includes 116 070 tonnes of direct-shipping ore from Caland Ore Co. Ltd. and consumed during agglomerating.

— Nil.

TABLE 8
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY DESTINATION, 1975

Iron Ore Producers	Canada		United States					Japan	Other	Total
	All Rail	Other	Great Lakes	Other Ports	Alt Rail	British	USC*			
					(Tonnes)					
Newfoundland										
Iron Ore Co. of Canada										
Carol Div. (conc.)										6 461 743
Carol Div. (pellets)	1 167 448	1 513 311	3 936 901			508 621	3 037 147	2 917 975	560 695	9 161 882
Wabush Mines (pellets)		1 777 056	1 281 699				1 684 271	299 256		3 258 274
							199 469 ¹			
Labrador - Quebec										
Iron Ore Co. of Canada										
Schellville direct-shipping ore			1 745 751	1 086 503		580 784	711 756			4 134 794
Sept-Îles pellets		135 531	2 508 274	361 591						3 005 396
Quebec										
H Iron Minis, The (pellets)	521 332				264 066					785 398
(concentrates)										
Quebec Carrier Mining Co.		4 064	3 033 916	98 557		1 740 489	3 038 996		350 536	8 266 558
Ontario										
Adams Mine (pellets)	1 153 648									1 153 648
Algoma Ore Division	1 428 269	88 078		1 264	323 ²					1 517 934
Caland Ore Co.										
Direct shipping										
Concentrates			700 968							700 968
Pellets			818 051							818 051
Griffith Mine, The (pellets)	1 434 003	36 915 ³								1 470 918
Marmora Mining Co. (pellets)										
Moose Mountain Mine - National Steel					6 294					282 391
Sherman Mine (pellets)	1 116 663		672 682							672 682
Steep Rock Iron Mines Ltd. (pellets)		972 253	149 683							1 121 936
(concentrates)	4 839									4 839
British Columbia										
Texada Mines Ltd. (conc.)									311 844	311 844
Westfrob Mines Ltd. (conc.)				289 808				697 977	33 869 ⁴	1 021 654
Byproduct Iron Ore Producers										
Inco Copper Cliff, Ont. (pellets)										
Total Usable Iron Ore Shipped	13 076	31 036	462 760		10 522					517 394
	5 671 830	4 212 381	13 163 202	5 784 624	281 205	2 627 894	8 671 639	4 227 052	945 100	45 784 327

Sources: Data supplied to Mineral Development Sector by companies.

¹ Italy. ² Sinter for special use. ³ Shipped to SL RN kiln at Griffith Mine for sponge iron production. ⁴ Australia. - Nil.

TABLE 9
STOCKS OF USABLE IRON ORE AT MINES AND SHIPPING PORTS IN CANADA, 1974 AND 1975

	December 31, 1974	December 31, 1975	Change in Stocks
	(tonnes)		
Newfoundland			
Iron Ore Co. of Canada			
At Sept-Iles			
Concentrates	164 170	116 292	- 47 878
Pellets — Carol Lake	448 074	1 173 901	+ 725 827
— Sept-Iles	317 966	517 355	+ 199 389
At Labrador City			
Concentrates	363 301	184 911	- 178 390
Pellets	316 123	98 742	- 217 381
Wabush Mines	582 398	314 758	- 267 640
Labrador — Quebec			
Iron Ore Co. of Canada			
Schefferville (at Sept-Iles)			
Direct-Shipping	3 552 300	5 651 615	+ 2 099 315
Plant feed	3 692 715	3 880 481	+ 187 766
Quebec			
Hilton Mines, The	82 711	110 950	+ 28 239
Quebec Cartier Mining Co.			
Gagnon	1 007 918	722 409	- 285 509
Mount Wright	—	422 676	+ 422 676
Ontario			
Adams Mine	166 787	168 523	+ 1 736
Algoma Ore Division	23 502	148 774	+ 125 272
Caland Ore Co. Ltd.	1 213 110	663 260	- 549 850
Griffith Mine, The ¹	21 800	23 093	+ 1 293
Marmoraton Mining Co.	11 770	158 300	+ 146 530
Moose Mountain Mine			
(National Steel)	41 288	31 209	- 10 079
Sherman Mine	—	—	—
Steep Rock Iron Mines. Ltd.	956 731	767 132	- 189 599
British Columbia			
Texada Mines Limited	145 808	166 705	+ 20 897
Wesfrob Mines Limited	94 722	139 478	+ 44 756
Total	13 203 194	15 460 564	+ 2 257 370

¹Excluding stocks at Thunder Bay. — Nil.

TABLE 10
ANALYSIS OF CANADIAN IRON ORE SHIPMENTS IN 1975

	Shipments (wet tonnes)	Natural Fe	Dry Analysis (per cent)							Loss by			
			Fe	P	SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S	Ignition	Moisture	Size Range
Newfoundland													
Iron Ore Company of Canada,													
Carol Operation													
Carol Pellets	9 161 882	63.95	N/A	0.01	5.79	0.16	0.28	—	—	—	—	1.46	—
Carol Concentrate	6 461 743	63.15	N/A	0.01	5.29	0.16	0.19	—	—	—	—	3.20	—
Total Carol Operation	15 623 625	63.62	N/A	0.01	5.58	0.16	0.24	—	—	—	—	2.18	—
Wabush Mines													
Pellets	3 258 224	64.11	65.66	—	2.93	1.92	—	—	—	—	—	2.36	—
Chips	—	—	—	—	—	—	—	—	—	—	—	—	—
Concentrate	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Wabush Mines	3 258 224	64.11	65.66	—	2.93	1.92	—	—	—	—	—	2.36	—
Quebec — Labrador													
Iron Ore Company of Canada													
Schefferville													
A. Schefferville Direct-													
Shipping Ore													
Quebec Non-Bessemer	1 393 744	52.15	N/A	0.07	9.36	1.16	1.06	—	—	—	—	9.33	—
Manganiferous	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Quebec	1 393 744	52.15	N/A	0.07	9.36	1.16	1.06	—	—	—	—	9.33	—
Labrador Non-													
Bessemer	2 741 050	55.15	N/A	0.06	6.93	0.27	1.27	—	—	—	—	8.88	—
Manganiferous	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Labrador	2 741 050	55.15	N/A	0.06	6.93	0.27	1.27	—	—	—	—	8.88	—
Total Schefferville													
Direct-shipment Ore	4 134 794	54.09	N/A	0.06	7.79	0.58	1.20	—	—	—	—	9.04	—
B. Sept-Iles Operation													
Quebec	—	—	—	—	—	—	—	—	—	—	—	—	—
Sept-Iles Pellets	1 269 363	60.02	N/A	—	—	—	—	—	—	—	—	—	—
Sept-Iles Concentrate	—	—	—	—	—	—	—	—	—	—	—	—	—

Labrador Sept-Iles Pellets			N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Sept-Iles Operation	1 736 033	63.68	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quebec Quebec Cartier Mining Co. Concentrate																				
		8 266 558	63.93	65.77	0.02	5.01	-	0.50											2.80	-10 mesh + 200 mesh
Hilton Mines The Hilton Pellets		784 623	65.86	66.00	0.01	2.31	0.08	0.32	0.22	2.25	0.01	2.00 ¹	0.19	+3/8"-5/8"						
		775	62.49	67.47	0.01	2.14	0.07	0.24	0.23	1.49	0.61	0	7.38	60%-325 mesh						
		785 398	65.86	66.00	0.01	2.31	0.08	0.32	0.22	2.25	0.01	2.00 ¹	0.19							
	Total Hilton Mines																			
Ontario Adams Mine																				
		1 153 648	64.95	65.46	0.02	5.03	0.09	0.33	0.20	0.40	0.06		0.78	86.8% +3/8"						
		208 825	50.99	51.44	0.02	10.10	3.00	1.55	5.25	7.59	0.07	1.19	0.82 ¹	-						
	Algonia Sinter (super- fluxed)	1 307 845	-	47.89	0.03	9.85	2.68	1.55	10.56	7.35	0.10	1.19	0.00	-						
Algonia Crude Total Algonia		1 264	34.20	-	-	-	-	-	-	-	-	-	-	-						
		1 517 934	48.32	48.37	0.03	9.89	2.72	1.55	9.18	7.39	0.10	1.19	0.11 ¹	-						
Caland Ore Company Limited Caland Pellets		818 061	63.13	63.47	0.02	6.03	0.24	1.33	-	-	0.00	-	0.44	-2"+5/8"						
		162 990	56.04	57.68	0.03	6.26	0.16	0.95	-	-	0.00	-	2.86	-3/8"						
		627 093	54.49	58.15	0.02	6.46	0.21	1.00	-	-	0.00	-	6.33	-5/8"						
		15 143	57.00	58.62	0.03	5.02	0.16	0.77	-	-	0.00	-	2.77	-5/8"						
		142 731	56.43	58.55	0.03	5.37	0.16	0.71	-	-	0.00	-	3.91	-5/8" + 3/8"						
	Total Caland	1 766 018	58.92	60.67	0.02	6.13	0.21	1.09	-	-	0.00	-	2.97	-						
Griffith Mine, The Pellets		1 470 918	66.72	66.76	0.02	3.57	0.07	0.40					0.06	84.7% +3/8" to 5/8"						

TABLE 10 (cont'd)

	Shipments (wet tonnes)	Natural Fe	Dry Analysis (per cent)						Loss by Ignition		Moisture	Size Range
			Fe	P	SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S		
Marmoraton Mining Co. Pellets	282 391	—	64.00	0.01	4.34	0.09	0.80	1.70	1.22	0.01	—	—
National Steel Corporation of Canada, Limited Pellets	620 006	62.66	63.35	0.01	8.30	0.01	0.42	—	—	—	—	97.22% + 1/4"
Chips	52 676	57.69	59.94	0.01	12.31	0.01	0.43	—	—	—	—	4.52% + 1/4"
Total National Steel	672 682	62.27	63.08	0.01	8.61	0.01	0.42	—	—	—	—	89.96% + 1/4"
Sherman Mine Pellets	1 116 663	65.06	65.62	0.03	5.54	0.06	0.38	0.20	0.36	0.001	0.02 ¹	5/8" to 1/2"
Steep Rock Iron Mines Ltd. Pellets	1 121 936	62.30	62.60	—	7.60	0.26	1.60	—	—	0.01	—	—
SR Fines	—	—	—	—	—	—	—	—	—	—	—	—
Total Steep Rock	1 121 936	62.30	62.60	—	7.60	0.26	1.60	—	—	0.01	—	—
British Columbia Texada Mines Ltd. Magnetite concentrate	311 844	60.32	63.87	0.01	4.91	0.15	0.78	2.33	0.63	1.02	—	10 mesh
Westfrob Mines Ltd. Sinter Feed	412 001	—	60.48	0.04	5.62	—	2.27	—	—	1.05	—	80% -1000 microns
Pellet Feed	609 653	—	69.36	0.02	1.46	—	0.56	—	—	0.26	—	80% -44 microns
Total Westfrob	1 021 654	—	65.78	0.02	3.14	—	1.25	—	—	0.58	—	—
Byproduct Ore The International Nickel Company of Canada Ltd.	517 394	64.90	66.50	0.00	2.65	0.03	0.73	0.49	0.32	0.008	—	2.03

¹Gain on ignition. — Nil.

TABLE 11
CANADIAN CONSUMPTION OF IRON-BEARING MATERIALS AT IRON AND STEEL PLANTS¹, 1975

	In Sinter Plants ²	In Iron and Steel Furnaces (tonnes)			Total in Furnaces
		In Direct Reduction Plants	Pig Iron Furnaces	Steel Furnaces	
Iron Ore					
Crude and concentrates	234 257	—	229 247	30 917	260 164
Pellets	180 902	544 313	10 446 537	65 138	10 511 675
Sinter	76 615	—	1 401 393	—	1 401 393
Subtotal	491 774	544 313	12 077 177	96 055	12 173 232
Sinter produced at Steel plant	—	—	1 138 171 ³	—	1 138 171
Total	491 774	544 313	13 215 347	96 055	13 311 402 ⁴
% Fe	58.29	66.70	61.99	65.45	62.01
Other iron-bearing materials					
Flue dust	145 099	—	—	—	—
Scale, reduced pellets, etc.	507 247	—	457 773	—	457 773
Total	652 346	—	457 773	—	457 773
% Fe	50.24	—	26.94	—	26.94

Source: Company data supplied to Mineral Development Sector.

¹All integrated producers, except Quebec Iron and Titanium Corp. ²Sinter plants located at steel works consume "new iron ore" "screenings" as well as other iron-bearing materials. ³Sinter produced mainly from 491 774 tonnes of "new iron ore" and 646 397 tonnes of other iron-bearing materials. ⁴Includes any sintered iron-bearing materials. Total iron ore consumption of "new iron ore" is an estimated 13.21 million tonnes, comprising 12.173 million tonnes of iron ore in furnaces, 0.545 million tonnes of pellets in direct reduction plants and 0.492 million tonnes of iron ore fines in sinter plants. — Nil.

1976 STATISTICAL REVIEW,
BY COMPANY

TABLE 12
CANADA, IRON ORE PRODUCERS, 1975 AND 1976

Company and Property Location	Participating Companies	Material Mined and/or Treated 1976	Product Shipped 1976	Shipments	
				1975	1976
		(%Fe natural)	(% Fe dry/wet)	('000 tonnes)	
Adams Mine; Boston Twp., near Kirkland Lake, Ont.	Dominion Foundries and Steel, Ltd.; managed by Cliffs of Canada Limited, a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company	Magnetite from open pit mine (19)	Pellets (66/65)	1 153	1 197
Algoma Ore Division of The Algoma Steel Corp., Ltd.; mines and sinter plant near Wawa, Ont.	Wholly-owned	Siderite from underground mine (33)	Siderite sinter (48/48)	1 518	1 865 ¹
Caland Ore Co. Ltd.; east arm of Steep Rock Lake, near Atikokan, Ont.	Inland Steel Co.	Hematite and goethite from open pit mine (54)	Pellets (63/63) Concentrate (56/68)	701	860
Griffith Mine, The; Bruce Lake, 56 kilometres south of Red Lake, Ont.	The Steel Co. of Canada, Ltd.; managed by Pickands Mather & Co.	Magnetite from open pit mine (23)	Pellets (67/66) Sponge iron (90/82)	1 471 17	1 579 ² 77
Hilton Mines, The; near Shawville, Quebec, 64 kilometres northwest of Ottawa, Ont.	The Steel Co. of Canada Ltd., 50%; Jones & Laughlin Steel Corp., 25%; Pickands Mather & Co. (managing agent), 25%	Magnetite from open pit mine (17)	Pellets (66/66)	785	657
Iron Ore Company of Canada; Schefferville, Quebec-Labrador operation	Labrador Mining and Exploration Company Ltd., 4.73%; Hollinger Mines Ltd., 10.17%; The Hanna Mining Co. (managing agent), 26.37%; Bethlehem Steel Corp.	Hematite-goethite-ilmonite from open pit mines (54)	Direct-shipping ore (50/54)	4 134	4 125

Carol Lake, Labrador operation	18.80%; Armco Steel Corp., 5.87%; Lykes-Youngstown Corp., 5.87%; National Steel Corp. of Canada Limited, 17.62%; Republic Steel Corp 5.87%; Wheeling-Pittsburgh Steel Corp., 4.70%	Specular hematite and Magnetite from open pit mines (39)	Pellets (66/64) Concentrate (66/63)	9 162 6 462	10 085 7 301
Sept-Iles, Que. pellet operation		Hematite-goethite-limonite from open pit mines, Schefferville area treat ore (53)	Pellets (63/61)	3 005	3 585
Marmoraton Mining Co., Division of Bethlehem Chile Iron Mines, Company; near Marmora, Ont.	Bethlehem Steel Corp.	Magnetite from open pit mine (41)	Pellets (66/66)	282	462
National Steel Corporation of Canada, Ltd., Moose Mountain Mine; Sudbury area, 32 kilometres north of Capreol, Ont.	National Steel Corp. of Canada Limited (The Hanna Mining Co. is managing agent)	Magnetite from open pit mine (33)	Pellets (63/62)	673	627
Quebec Cartier Mining Company; Mount Wright, near Fermont, Quebec	United States Steel Corp.	Specular hematite from open pit mine (33)	Specular hematite ³ concentrate (66/64)	–	14 137 ⁴
Sidbec-Normines Inc; Gagnon and Fire Lake, Quebec	Sidbec-Dosco Ltd., 50.1%; British Steel Corp., 41.67%; Quebec Cartier Mining Co., 8.23%	Specular hematite from open pit mine (36)	Specular hematite concentrate (66/64)	8 267	
Sherman Mine; near Temagami, Ont.	Dominion Foundries and Steel, Limited, 90%; Tatapaga Mining Company (wholly-owned subsidiary of The Cleveland-Cliffs Iron Company), 10%. The operation and management of the mine is by Cliffs of Canada Limited, also a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company	Magnetite from open pit mines (21)	Pellets (66/65)	1 117	1 093

Table 12 (cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated 1976	Product Shipped 1976	Shipments	
				1975	1976
Steep Rock Iron Mines Ltd.; Steep Rock Lake, north of Atikokan, Ont.	Publicly-owned company	Hematite-goethite from open pit mine (49)	Concentrate (58/54) Pellets (63/62)	5	7
				1 122	1 363
Texada Mines Ltd.; Texada Island, B.C.	Kaiser Aluminum and Chemical Corp.	Magnetite and chalcopyrite from open pit and underground mines (34)	Magnetite concen- trate (63/60)	312	388
Wasbush Mines; Scully Mine includes mine and concentrator at Wabush, Labrador; Pointe Noire Division includes pel- letizing plant at Pointe Noire, Que.	The Steel Co. of Canada Ltd., 25.6%; Dominion Foundries and Steel, Ltd., 16.4%; Youngstown Sheet and Tube Company, 15.6%; Inland Steel Co., 10.2%; Interlake, Inc., 10.2%; Wheeling-Pittsburgh Steel Corp., 10.2% Finisier of Italy, 6.6%; and Pickands Mather & Co. (managing agent), 5.2%	Specular hematite and some magnetite from open pit mine (35)	Pellets (66/64) concentrate (66/64)	3 258 18	5 487 —
Wasfrob Mines Limited; Tasu Harbour, Moresby Is., Queen Charlotte Is., B.C.	Falconbridge Nickel Mines Limited	Magnetite and chalcopyrite from open pit (38) and underground (44) mines.	Pellet-feed con- centrate (69) Sinter-feed con- centrate (60)	610 411	564 344
Byproduct Producers					
The International Nickel Co. of Canada, Ltd.; Copper Cliff, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates (57) treated	Pellets (67/66)	517	485

Quebec Iron and Titanium Corp.; mine at Lac Tio, Que.; electric smelter at Sorel, Quebec	Kennecott Copper Corp.; Gulf & Western Industries Inc. (The New Jersey Zinc Co.)	Ilmenite-hematite ore (40% Fe, 35% TiO ₂) from open pit mine at Lac Tio, beneficiated and calcined at Sorel	Ilmenite calcine electric smelted to TiO ₂ slag and various grades of desulphurized pig iron or remelt iron	421	467 ⁵
--	--	---	--	-----	------------------

Sources: Company reports, personal communication.

1 Includes 150 014 tonnes of regular sinter, 1 710 979 tonnes of superfluxed sinter, 4 303 tonnes of crude ore shipped as food supplement to livestock industry.

2 Includes 115 061 tonnes of oxide pellets consumed in the SL-RN direct reduction kiln.

3 Average grade of shipments from Quebec Cartier mining and Sidbec-Normines.

4 Includes shipments of Sidbec-Normines.

5 Pig iron — Nil.

TABLE 13
CRUDE IRON ORE MINED IN CANADA, BY VARIETY AND GRADE, 1976

	Hematite		Magnetite		Siderite	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada	42 144 000	39.30	—	—	—	—
Carol Division	17 678 190	35.08	—	—	—	—
Wabush Mines						
Labrador — Quebec						
Iron Ore Company of Canada	4 097 741	54.39 ¹	—	—	—	—
Schefferville — Direct-shipping	4 915 069	52.80 ^{1,2}	—	—	—	—
— Treat ore						
Quebec						
Hilton Mines, The	—	—	2 600 099	17.0	—	—
Quebec Cartier Mining Company	—	—	—	—	—	—
Gagnon and Fire Lake	13 875 137	36.10	—	—	—	—
Mount Wright	20 952 919	32.50	—	—	—	—
Ontario						
Adams Mine	—	—	4 656 169	19.38	—	—
Algoma Ore Division	—	—	—	—	2 773 635	32.2
Caldan Ore Co.	2 090 710	53.68	—	—	—	—
Griffith Mine, The	—	—	5 690 259	23.24	—	—
Marmaraton Mining Co.	—	—	897 926	40.99	—	—
Moose Mountain Mine	—	—	1 648 169	32.98	—	—
(National Steel)	—	—	—	—	—	—
Sherman Mine	—	—	4 415 462	20.55	—	—
Steep Rock Iron Mines	2 217 657	54.60	—	—	—	—
British Columbia						
Texada Mines Ltd.	—	—	818 728	34.43	—	—
Wesfrob Mines Limited	—	—	1 572 524	38.00	—	—
Total	107 971 423	38.66	22 299 336	24.06	2 773 635	32.2

Source: Data supplied to Mineral Development Sector by companies.

¹ Analysis of shipments. ² Treat ore for Sept-Iles Division concentrator and pelletizing operations. — Nil.

TABLE 14
CANADA, CRUDE IRON ORE MINED, BY MINING METHOD, 1976

	Open Pit		Underground		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada						
Carol Division	42 144 000	39.3	—	—	42 144 000	39.3
Wabush Mines	17 678 190	35.08	—	—	17 678 190	35.08
Labrador — Quebec						
Iron Ore Company of Canada						
Schefferville — Direct-shipping	4 097 741	54.27 ¹	—	—	4 097 741	54.27
— Treat ore	4 915 069	52.8 ^{1,2}	—	—	4 915 069	52.8
Quebec						
Hilton Mine, The	2 600 099	17.0	—	—	2 600 099	17.0
Quebec Cartier Mining Company						
Gagnon and Fire Lake	13 875 137	36.10	—	—	13 875 137	36.10
Mount Wright	20 952 919	32.5	—	—	20 952 919	32.5
Ontario						
Adams Mine	4 656 169	19.38	—	—	4 656 169	19.38
Algoma Ore Division	—	—	2 773 635	32.20	2 773 635	32.20
Galand Ore Co.	2 090 710	53.68	—	—	2 090 710	53.68
Griffith Mine, The	5 690 259	23.24	—	—	5 690 259	23.24
Marmaraton Mining Co.	897 926	40.99	—	—	897 926	40.99
Moose Mountain Mine	1 648 169	32.98	—	—	1 648 169	32.98
(National Steel)						
Sherman Mine	4 415 462	20.55	—	—	4 415 462	20.55
Steep Rock Iron Mines	2 217 657	54.6	—	—	2 217 657	54.6
British Columbia						
Texada Mines Ltd.	70 985	28.00	747 743	35.04	818 728	34.43
Wasfrob Mines Limited	1 519 507	37.79	53 017	43.96	1 572 524	38.00
Total	129 469 999	36.16	3 574 395	32.97	133 044 394	36.07

Source: Data Supplied to Mineral Development Sector.

¹ Analysis of shipments.

² Treat ore for Sept-Iles Division concentrator and pellet plant.

— Nil.

TABLE 15
DISPOSITION OF CRUDE IRON MINED IN CANADA, 1976

	For Direct Shipping		To concentration Plant		To Agglomeration Plant		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland								
Iron Ore Company of Canada								
Carol Division	—	—	—	—	42 144 000	39.3	42 144 000	39.3
Wabush Mines	—	—	—	—	17 678 190	35.08	17 678 190	35.08
Labrador — Quebec								
Iron Ore Company of Canada								
Schefferville Division	4 097 741	54.27	—	—	—	—	4 097 741	54.27
Sept-Iles Division	—	—	—	—	4 915 069	52.81 ²	4 915 069	52.8
Quebec								
Hilton Mine, The	—	—	—	—	2 600 099	17.0	2 600 099	17.0
Quebec Cartier Mining Company								
Gagnon and Fire Lake	—	—	13 875 137	36.1	—	—	13 875 137	36.1
Mount Wright	—	—	20 952 919	32.5	—	—	20 952 919	32.5
Ontario								
Adams Mine	—	—	—	—	4 656 169	19.38	4 656 169	19.38
Algoma Ore Division	4 303	33.4	—	—	2 769 332	32.2	2 773 635	32.2
Caland Ore Co.	—	—	—	—	2 090 710	53.68	2 090 710	53.68
Griffith Mine, The	—	—	—	—	5 690 259	23.24	5 690 259	23.24
Marmoraton Mining Co.	—	—	—	—	897 926	40.99	897 926	40.99
Moose Mountain Mine	—	—	—	—	1 648 169	32.98	1 648 169	32.98
(National Steel)								
Sherman Mine	—	—	—	—	4 415 462	20.55	4 415 462	20.55
Steep Rock Iron Mines	—	—	979 847	48.48	1 237 810	59.5	2 217 657	54.63
British Columbia								
Texada Mines Ltd.	—	—	818 728	34.43	—	—	818 728	34.43
Wesfrob Mines Limited	—	—	1 572 524	38.00	—	—	1 572 524	38.00
Total	4 102 044	54.25	38 199 155	34.49	90 743 195	35.92	133 044 394	36.07

Source: Data supplied to Mineral Development Sector by companies.

¹ Analysis of shipments. ² Treat ore for Sept-Iles Division concentrator and pellet plant. — Nil

TABLE 16
USABLE IRON ORE PRODUCED IN CANADA, BY TYPE OF PRODUCT, 1976

	Direct-Shipping		Concentrates		Agglomerates		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland								
Iron Ore Company of Canada								
Carol Division			7 396 926	62.6 ¹	10 357 213	65.00 ²	17 754 139	64.00
Wabush Mines			—	—	5 820 900	63.83	5 820 900	63.83
Quebec								
Labrador - Quebec								
Iron Ore Company of Canada								
Schefferville Division	4 097 741	54.27	—	—	—	—	4 097 741	54.27 ³
Sept-Iles Division	—	—	—	—	3 745 788	63.1	3 745 788	63.10
Quebec								
Hilton Mine, The	—	—	1 823	65.0	598 407	65.80	600 230	65.80
Quebec Cartier Mining	—	—	—	—	—	—	—	—
Gagnon and Fire Lake	—	—	6 720 134	63.6	—	—	6 720 134	63.60
Mount Wright	—	—	7 960 728	63.6	—	—	7 960 728	63.60
Ontario								
Adams Mine	—	—	—	—	1 196 952	65.06	1 196 952	65.06
Algoma Ore Division	4 303	33.4	—	—	1 752 247	47.8	1 756 550	47.8
Caland Ore Co.	—	—	1 994 470	55.8	—	—	1 994 470	55.8
Griffith Mine, The	—	—	—	—	1 571 331	66.18	1 571 331	66.18
Marmorator Mining Co.	—	—	—	—	481 185	65.70	481 185	65.70
Moose Mountain Mine	—	—	—	—	665 511	63.34	665 511	63.34
(National Steel)	—	—	—	—	—	—	—	—
Sherman Mine	—	—	—	—	1 091 588	65.27	1 091 588 ⁴	65.27
Steep Rock Iron Mines	—	—	49 317.5	58.5	1 357 306	62.5	1 406 623	62.36
British Columbia								
Texada Mines Ltd.	—	—	406 752	59.98	—	—	406 752	59.98
Westrob Mines Limited	—	—	800 199	66.12	—	—	800 199	66.12
Total Iron Ore	4 102 044	54.25	25 330 349	62.71	28 637 428	63.48	58 069 821	62.49
Byproduct Iron Ore	—	—	—	—	484 884	65.70	484 884	65.70
Iron Ore (Copper Cliff, Ont.)	—	—	—	—	—	—	—	—
Total Usable Iron Ore Produced	4 102 044	54.25	25 330 349	62.71	29 122 312	63.52	58 554 705	62.52

Source: Data supplied to Mineral Development Sector by companies.

¹18 417 001 tonnes of concentrates were produced from 42 143 594 tonnes of ore sent to concentrator; 10 357 213 tonnes of pellets were produced from the concentrates and 7 396 926 were left for shipments to Sept-Iles. ²Dry analysis. ³Analysis of shipments.

⁴Includes 20 271 tonnes of mill scale grading 70.00 per cent Fe. ⁵Stockpiled. — Nil

TABLE 17
WASTE/ORE CONCENTRATION RATIOS AT CANADIAN IRON ORE MINES, 1976

	Open pit Waste	Underground Waste	Iron Ore Mined	Usable Iron Ore Produced	Waste/Ore Ratio	Waste /Usable Ore Ratio	Concentration Ratio Fe Recovery
	(tonnes)						
Newfoundland							
Iron Ore Company of Canada	14 088 281 ¹	—	42 144 000	17 754 139 ²	0.334	0.793	2.374
Carol Division	8 083 965	—	17 678 190	5 820 900	0.457	1.389	3.037
Wabush Mines							0.686
							0.599
Labrador — Quebec							
Iron Ore Company of Canada	17 719 183 ¹	—	4 097 741 ³	4 097 741	1.966	2.259	1.000
Schefferville			4 915 069 ⁴	3 745 788			0.911
Quebec							
Hilton Mine, The	405 180	—	2 600 099	600 230	0.156	0.675	4.33
Quebec Cartier Mining Company							0.893
Gagnon and Fire Lake	2 068 672 ¹	—	13 875 137	6 720 134	0.149	0.308	2.065
Mount Wright	8 577 468 ¹	—	20 952 919	7 960 728	0.409	1.077	2.632
Ontario							
Adams Mine	1 899 735	—	4 656 169	1 195 952	0.408	1.588	3.893
Algoma Ore Division	—	221 287	2 773 635	1 756 550	0.080	0.126	0.862
Caldwell Ore Co.	7 466 059	—	2 090 710	1 994 470	3.571	3.743	0.940
Griffith Mine, The	7 548 361	—	5 690 259	1 571 331	3.571	3.743	0.992
Marmaraton Mining Co.	2 704 653	—	897 926	481 185	1.326	4.804	0.768
Moose Mountain Mine	905 823	—	1 648 169	665 511	3.012	5.621	0.859 ^e
(National Steel)					0.549	1.361	0.775
Sherman Mine	4 112 292 ⁵	—	4 415 462	1 091 588	0.931	3.767	0.785
Steep Rock Iron Mines ⁶	10 675 380 ⁵	—	2 217 657	1 722 111 ^e	4.814	6.20	0.877 ^e
British Columbia							
Texada Mines Ltd.	39 989	1 036	818 728	406 752	0.050	0.098	2.013
Wesfrob Mines Limited	687 861	109 774	1 572 524	800 199	0.507	0.997	1.965

Source: Data supplied to Mineral Development Sector by companies.

¹ Calculated from data supplied by companies in cubic metres by using a factor of 2.658 tonnes equals 1 cubic metre. ² Pellets and concentrate. ³ Schefferville direct-shipping ore.
⁴ Schefferville treat ore. ⁵ A factor of 2.259 tonnes of ore per cubic metre was used. ⁶ Not all ore mined was consumed; 158 121 tonnes grading 48.48% Fe was stockpiled. Some
251 176 tonnes grading 59.5% Fe were purchased from Caland and fed to the pellet plant. ^e Estimated; — Nil.

TABLE 18
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY TYPE OF PRODUCT, 1976

	Direct-shipping		Concentrates		Agglomerates		Total	
	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.	Tonnes	% Fe Nat.
Newfoundland								
Iron Ore Company of Canada	—	—	7 300 897	62.80	10 084 804	64.25	17 385 701	63.64
Carol Division	—	—	—	—	5 486 288	63.82	5 486 288	63.82
Wabush Mines								
Labrador — Quebec								
Iron Ore Company of Canada	4 124 866	54.27	—	—	—	—	4 124 866	54.27
Knob Lake Division	—	—	—	—	3 584 949	63.16	3 584 949	63.16
Sept-Îles Division								
Quebec								
Hilton Mine, The	—	—	—	—	657 661	65.52	657 661	65.52
Quebec Cartier Mining Company	—	—	14 137 813	63.58	—	—	14 137 813	63.58
Gagnon, Fire Lake, Mount Wright								
Ontario								
Adams Mine	—	—	—	—	1 196 620	65.06	1 196 620	65.06
Algoma Ore Division	4 303 ¹	33.4	—	—	1 860 994	47.80	1 865 297	47.80
Caland Ore Co.	—	—	728 087	55.80	859 218	63.02	1 587 305	59.71
Griffith Mine, The	—	—	—	—	1 464 596	66.18	1 464 596	66.18
Marmaraton Mining Co.	—	—	—	—	462 659	65.70	462 659	65.70
Moose Mountain Mine	—	—	—	—	626 938	62.40	626 938	62.40
(National Steel)								
Sherman Mine	—	—	—	—	1 092 910	65.27	1 092 910	65.27
Steep Rock Iron Mines	—	—	—	—	1 369 598	62.6	1 369 598	62.6
British Columbia								
Texada Mines Ltd.	—	—	387 805	59.98	—	—	387 805	59.98
Wusfrob Mines Ltd. (sinter feed)	—	—	344 914	60.48	—	—	344 914	60.48
(pellet feed)			563 633	69.37			563 633	69.37
Byproduct Iron Ore								
Inco (Copper Cliff, Ont.)	—	—	—	—	484 884	65.70	484 884	65.70
Total Usable Iron Ore Shipped	4 129 169	54.25	23 463 149	63.13	29 232 119	63.08	56 824 437	61.93

Source: Data supplied to Mineral Development Sector by companies.

¹Shipped to USA to be used as a food supplement to the livestock industry. ²Excludes 115 061 tonnes shipped to the SL-RN kiln at the Griffith Mine for sponge iron production. ³Includes 4 485 tonnes of fines. ⁴Includes 20 271 tonnes of mill scale grading 70.00 per cent Fe. ⁵Includes 7 043 tonnes of direct-shipping. 6Percent Fe dry. — Nil.

TABLE 19
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY DESTINATION, 1976

Iron Ore Producers	Canada		United States		Britain	U.S.C.	Japan	Other	Total
	All Rail	Other	Great Lakes	Other (tonnes)					
Newfoundland									
Iron Ore Co. of Canada					846 804	1 153 234	3 648 147	1 652 712 ⁷	7 300 897
Carol Div. (conc.)					280 815	956 270	149 867	1 909 721 ¹⁰	10 084 804
Carol Div. (pellets)	353 564 ⁸	3 026 661	3 808 906	—	—	378 909 ¹	—	—	5 486 288
Wabush Mines (pellets)	2 568 716	2 538 663	—	—	—	—	—	—	—
Labrador — Quebec									
Iron Ore Co. of Canada					336 387	796 874	358 780	—	4 124 866
Schefferville direct shipping ore			1 560 179	1 072 636	—	—	—	—	—
Sept-Îles pellets	—	207 071	3 377 878	—	—	—	—	—	3 584 949
Quebec									
Montréal, Inc.									
pellets	363 793	—	—	292 977	—	—	—	—	656 765
concentrate	—	—	—	—	—	—	—	—	896
Quebec Cartier Mining Co.					2 190 597	5 099 539	—	619 786 ²	14 138 293
Gagnon, Fire Lake, Mount Wright					—	—	—	—	—
Ontario									
Adam Mine (pellets)	1 196 620	—	—	—	—	—	—	—	1 196 620
Algonia Ore Division	1 774 561	86 065	—	4 670	—	—	—	—	1 865 296
Ca and Ore Co.									
direct shipping concentrates	—	—	728 087	—	—	—	—	—	728 087
Griffith Mine, The (pellets)	—	—	859 218	—	—	—	—	—	859 218
Griffith Iron Mining Co.	1 464 506 ³	115 061 ⁴	—	—	—	—	—	—	1 579 657
pellets	—	—	—	—	—	—	—	—	—
Moos Mountain Mine	—	458 174	—	4 485 ⁵	—	—	—	—	462 659
National Steel (pellets)	—	—	—	—	—	—	—	—	—
Sherran Mine (pellets)	1 092 910	618 399	—	—	—	—	—	—	618 399
Sheridan Mine (pellets)	—	—	—	—	—	—	—	—	1 092 910
Sheridan Iron Mines Ltd.	—	—	—	—	—	—	—	—	—
pellets	1 008 389	161 726	—	—	—	—	—	—	1 170 125
concentrate	7 043 ⁶	—	—	—	—	—	—	—	7 043
British Columbia									
Troxana Mines Ltd. (conc.)	—	—	—	—	—	—	—	—	—
Wabush Mines Ltd. (conc.)	—	—	—	171 529	—	—	—	—	387 805
Wabush Mines Ltd. (conc.)	—	—	—	—	—	—	—	—	704 660
Byproduct Iron Ore Producers									
Inco, Copper Cliff, Ont.	96 663	—	377 870	—	10 262	—	—	—	484 795
pellets	—	—	—	—	—	—	—	—	—
Total Usable Iron Ore Shipped	5 996 186	4 338 876	18 593 025	6 395 269	313 285	3 654 613	7 983 826	5 249 259	4 214 580
									56 738 919

Source: Data supplied to Mineral Development Sector by companies.

1 Italy. 2 Mainly Austria and Spain. 3 From mine by rail to Thunder Bay and by ship to Hamilton. 4 Shipped to S.L.R.N. at Griffith Mine for sponge iron product on. 5 Fines. 6 Direct shipping ore. 7 Holland. 8 Australia. 9 139 920 Eastern Sea board and 213 844 St. Lawrence away. 10 Holland. 11 319 317; Spain 590 405. — Nil.

TABLE 20
STOCKS OF USABLE IRON ORE AT MINES AND SHIPPING PORTS IN CANADA, 1975 and 1976

	December 31, 1975	December 31, 1976 (Tonnes)	Change in Stocks
Newfoundland			
Iron Ore Co. of Canada			
At Sept-Iles			
Concentrates	116 292	129 632	+ 13 340
Pellets — Carol Lake	1 173 901	1,459 683	+ 285 782
— Sept-Iles	517 355	678 194	+ 160 839
At Labrador City			
Concentrates	210 583 ²	216 185	+ 5 602
Pellets	98 742	86 077	— 12 665
Wabush Mines	314 758	649 370	+ 334 612
Labrador — Quebec			
Iron Ore Co. of Canada			
Schefferville (at Sept-Iles)			
Direct-shipping	5 651 615	5 602 111	— 49 504
Plant feed	3 880 481	3 273 509	— 606 972
Quebec			
Hilton Mines, The	110 950	52 450	— 58 500
Quebec Cartier Mining Co.			
Gagnon, Fire Lake and Mount Wright	671 607 ²	1 521 022	+ 849 415
Ontario			
Adams Mine	168 523	148 983	— 19 540
Algoma Ore Division	148 774	40 027	— 108 747
Caland Ore Co. Ltd.	663 260	952 643	+ 289 383
Griffith Mine, The ¹	23 093	14 767	— 8 326
Marmoraton Mining Co.	158 300	176 825	+ 18 525
Moose Mountain Mine (National Steel)	31 209	45 722	+ 14 513
Sherman Mine	—	—	—
Steep Rock Iron Mines Ltd. ³	348 428	584 473	+ 236 045
British Columbia			
Texada Mines Limited	163 119	137 360	— 25 759
Wesfrob Mines Limited	139 478	71 854	— 67 624
Total	14 590 468	15 840 887	+ 1 250 419

¹ Excluding stocks at Thunder Bay. ² Adjusted. ³ Does not include pyritic crude ore. — Nil.

TABLE 21
ANALYSIS OF CANADIAN IRON ORE SHIPMENTS IN 1976

	Shipments (wet tonnes)	Dry Analysis (per cent)										Loss by		Size Range	
		Natural		Fe	P	SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S	Ignition	Moisture		
		Fe													
Newfoundland															
Iron Ore Company of Canada,															
Carol Operation															
Carol Pellets	10 084 804	64.25	N/A	0.01	5.57	0.15	0.30	—	—	—	—	—	—	1.25	—
Carol Concentrate	7 300 897	62.80	N/A	0.01	5.44	0.16	0.21	—	—	—	—	—	—	3.45	—
Total Carol Operation	17 385 701	63.64	N/A	0.01	5.52	0.15	0.26	—	—	—	—	—	—	2.17	—
Wabush Mines															
Pellets	5 486 288	63.82	65.62	N/A	2.98	2.01	—	—	—	—	—	—	—	2.75	—
Chips	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Concentrate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Wabush Mines	5 486 288	63.82	65.62	—	2.98	2.01	—	—	—	—	—	—	—	2.75	—
Quebec — Labrador															
Iron Ore Company of Canada															
Schefferville															
A. Schefferville Direct-															
Shipping Ore															
Quebec Non-Bessemer	1 407 013	52.17	N/A	0.08	9.34	1.06	1.12	—	—	—	—	—	—	9.22	—
Manganiferous	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Quebec	1 407 013	52.17	N/A	0.08	9.34	1.06	1.12	—	—	—	—	—	—	9.22	—
Labrador Non-															
Besser	2 717 853	55.54	N/A	0.06	6.28	0.21	1.40	—	—	—	—	—	—	8.93	—
Manganiferous	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Labrador	2 717 853	55.54	N/A	0.06	6.28	0.21	1.40	—	—	—	—	—	—	8.93	—
Total Schefferville															
Direct-Shipping Ore	4 124 866	54.39	N/A	0.06	7.32	0.50	1.30	—	—	—	—	—	—	9.02	—
B. Sept-Iles Operation															
Quebec															
Sept-Iles Pellets	1 612 113	61.08	N/A	—	—	—	—	—	—	—	—	—	—	—	—
Sept-Iles Concentrate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

[illegible]

TABLE 21 (cont'd)

	Shipments (wet tonnes)	Dry Analysis										Loss by		Size Range
		(per cent)										Ignition	Moisture	
		Natural Fe	Fe	P	SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S				
Marmoraton Mining Co. Pellets	458 174	—	65.7	0.006	3.42	0.086	0.59	0.81	0.94	0.007	—	—	—	
Fines	4 485													
National Steel Corporation of Canada, Limited														
Pellets	626 939	62.4	63.3	0.01	8.30	0.015	0.45	—	0.015	—	—	1.4	—	
Chips	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total National Steel	626 939	62.4	63.3	0.01	8.30	0.015	0.45	—	0.015	—	—	1.4	—	
Sherman Mine Pellets	1 092 910	65.27	65.82	0.02	5.47	0.07	0.46	0.23	0.32	0.002	0.03	0.83	5/8" to 1/2"	
Steep Rock Iron Mines Ltd. Pellets	1 369 598	—	62.6	0.016	7.50	0.28	1.70	0.35	0.24	0.01	—	0.88	—	
SR Fines	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total Steep Rock	1 369 598	—	62.6	0.016	7.50	0.28	1.70	0.35	0.24	0.01	—	0.88	—	
British Columbia Texada Mines Ltd. Magnetite concentrate ⁴ (sinter feed)	387 805	59.98	63.46	0.01	5.96	0.15	0.83	3.07	0.54	1.03	—	5.48	35%–100 mesh	
Wesfrob Mines Ltd. Sinter Feed	344 914	—	60.48	0.02	5.84	—	1.99	—	—	1.06	—	5.20	+4000–149 mesh	
Pellets Feed	563 633	—	69.37	0.01	1.55	—	0.49	—	—	0.28	—	9.45	+297–44 mesh	
Total Wesfrob	908 547	—	65.99	0.01	3.18	—	1.06	—	—	0.58	—	7.84	—	
Byproduct Ore The International Nickel Company of Canada Ltd.	484 884	65.7	66.8	0.004	2.32	0.025	0.65	0.46	0.29	0.007	—	1.77	—	

1 Gain on ignition. 2 Fe total.

3 Fe metallic. 4 Also contains 0.084% Cu (dry). — Nil.

TABLE 22
CANADIAN CONSUMPTION OF IRON-BEARING MATERIALS AT INTEGRATED¹ IRON AND STEEL PLANTS, 1976

	In Sinter Plants	In Direct Reduction Plants	In Iron and Steel Furnaces		Total in Furnaces
			In the Production of Pig Iron	In Steel Furnaces	
(Tonnes)					
Iron Ore					
Crude and concentrates	243 241	—	349 726	23 250	372 976
Pellets	114 641	270 758	10 793 034	66 298	10 859 332
Sinter	93 645	—	1 745 457	—	1 745 457
Sinter produced at Steel plant	—	—	326 498	—	326 498
Direct-reduced iron	—	—	31 149	164 050	195 199
Other iron-bearing materials					
Flue dust	122 556	—	—	—	—
Mill Scale, cinder, slag	478 160	—	474 988	496	475 484

Source: Company data supplied to Mineral Development Sector.

¹ Dominion Foundries and Steel, Limited (Hamilton); Sidbec-Dosco Limited (Contrecoeur); Sydney Steel Corporation (Sydney); The Algoma Steel Corporation, Limited (Sault Ste Marie); and The Steel Company of Canada, Limited (Hamilton). — Nil

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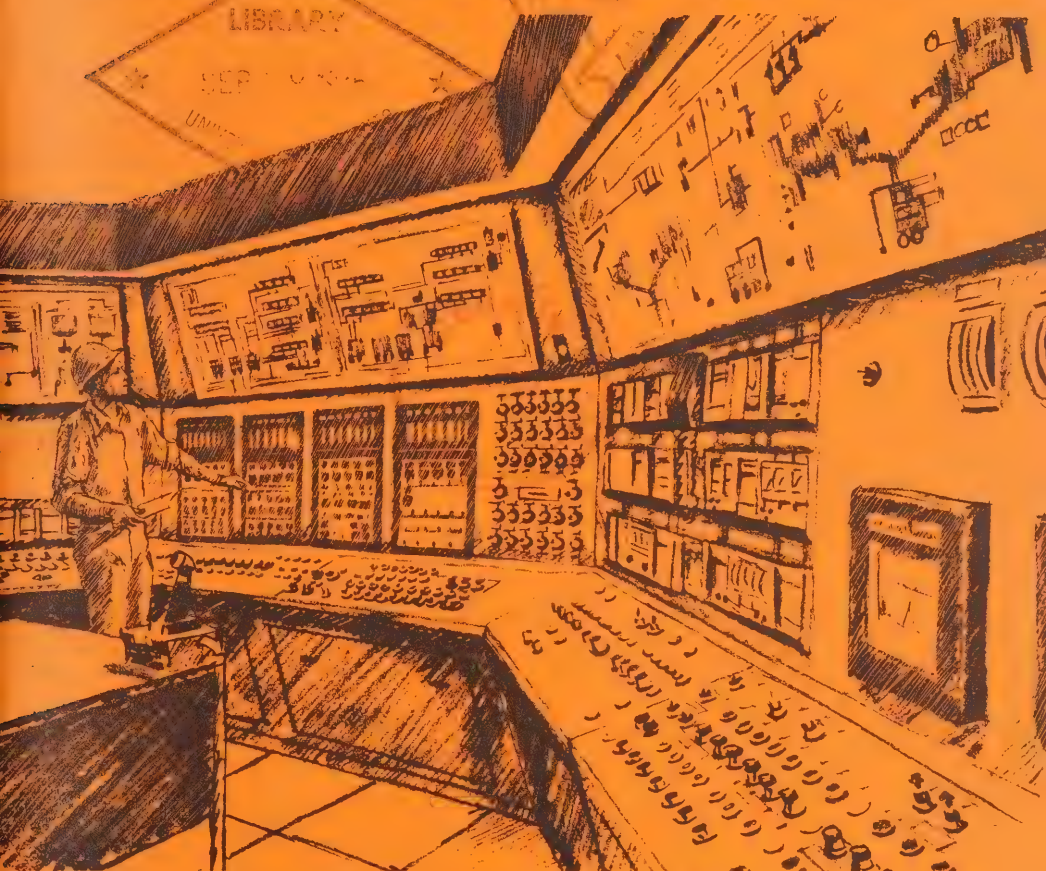
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IRON ORE INDUSTRY STATISTICS 1973-74



Roger J. Goodman and Richard Johnson



Energy, Mines and
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MINERAL BULLETIN MR 144

Canadian Iron Ore Industry Statistics, 1973-74

**Roger J. Goodman
and
Richard Johnson**



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PREFACE

The bulletin was prepared to continue the Canadian iron ore industry Statistics series that was developed for the Mineral Information Bulletin published from 1955 through 1970. The statistical data, when used in conjunction with the Iron Ore chapter of the Canadian Minerals Yearbook, present a comprehensive review of the iron ore industry for the respective years 1973-74.

The data used in the compilation of the statistical tables were supplied to Mineral Development Sector by individual firms within the Canadian iron ore industry. Their cooperation and prompt responses to our requests are greatly appreciated.

May 1975

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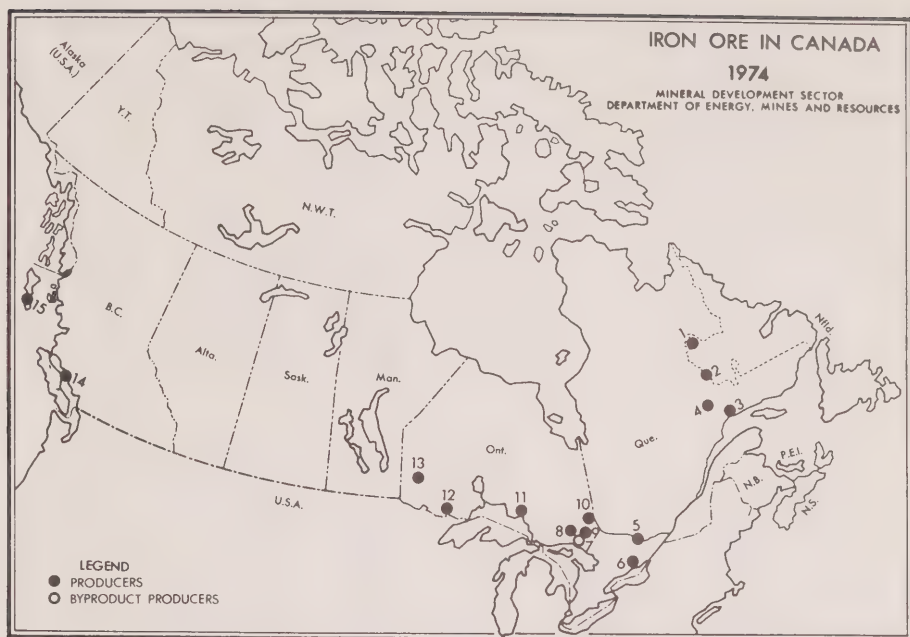
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1973 STATISTICAL REVIEW,
BY COMPANY



PRODUCERS

(numbers refer to numbers on map)

1. Iron Ore Company of Canada, Knob Lake Division (Schefferville)
2. Iron Ore Company of Canada, Carol Division, (Labrador City)
2. Scully Mine of Wabush Mines (Wabush)
3. Iron Ore Company of Canada, Sept-Iles Division (Sept-Iles)
3. Pointe Noire Division of Wabush Mines (Pointe Noire)
4. Quebec Cartier Mining Company (Gagnon)
5. Hilton Mines, Ltd. (Shawville)
6. Marmoraton Mining Company, Division of Bethlehem Chile Iron Mines Company (Marmora)
8. National Steel Corporation of Canada, Limited (Capreol)
9. Sherman Mine of Dominion Foundries and Steel, Limited (Temagami)
10. Adams Mine of Dominion Foundries and Steel, Limited (Kirkland Lake)
11. Algoma Ore Division of The Algoma Steel Corporation, Limited (Wawa)
12. Caland Ore Company Limited (Atikokan). Steep Rock Iron Mines Limited (Atikokan)
13. The Griffith Mine (Bruce Lake)
14. Texada Mines Ltd. (Texada Is.)
15. Wesfrob Mines Limited (Moresby Is.)

BYPRODUCT PRODUCERS

7. The International Nickel Company of Canada, Limited (Copper Cliff)

Figure 1

TABLE 1
CANADA, IRON ORE PRODUCERS, 1972 AND 1973

Company and Property Location	Participating Companies	Material Mined and/or Treated	Shipments	
			1972	1973
		(% Fe natural)	(% Fe dry/wet)	('000 wet long tons)
Adams Mine: Boston Twp., near Kirkland Lake, Ont.	Dominion Foundries and Steel, Ltd.; managed by Cliffs of Canada Limited, a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company	Magnetite from open-pit mine (19)	Pellets (66/65)	1,093 1,174
Algoma Ore Division of The Algoma Steel Corp., Ltd.; mines and sinter plant near Wawa, Ont.	Wholly-owned	Siderite from open-pit and underground mine (34)	Siderite sinter (48/48)	1,797 2,046 ¹
Caland Ore Co. Ltd.; east arm of Steep Rock Lake, near Atikokan, Ont.	Inland Steel Co.	Hematite and goethite from open-pit mine (55)	Pellets (69/64) Concentrate (59/56) Direct Shipping (60/55)	1,115 1,178 783 928 86
Griffith Mine, The; Bruce Lake, 35 miles south of Red Lake, Ont.	The Steel Co. of Canada, Ltd.; managed by Pickands Mather & Co.	Magnetite from open-pit mine (24)	Pellets (67/67)	1,380 1,506
Hilton Mines, Ltd.; near Shawville, Quebec 40 miles NW of Ottawa	The Steel Co. of Canada Ltd., 50%; Jones & Laughlin Steel Corp., 25%; Pickands Mather & Co. (managing agent), 25%	Magnetite from open-pit mine (20)	Pellets (67/67)	878 870

Iron Ore Company of Canada	Labrador Mining and Exploration Company Ltd., 4.73%; Hollinger Mines Ltd., 10.17%; The Hanna Mining Co. (managing agent), 26.37%;	Hematite-goethite-limonite from open-pit mines (54)	Direct-shipping ore (59/54)	5, 046	7, 211
1. Carol Lake, Labrador operation	Bethlehem Steel Corp. 18.80%; Armco Steel Corp., 5.87%; Lykes-Youngstown Corp. 5.87%;	Specular hematite and magnetite from open-pit mines (39)	Pellets (65/64) Concentrates (65/63)	7, 985	9, 721
2. Sept-Iles, Que., ² Pellet operation	National Steel Corp., 17.62%; Republic Steel Corp., 5.87%; Wheeling-Pittsburgh Steel Corp., 4.70%	Hematite-goethite-limonite from open-pit mines, Schefferville area	Pellets (63/61) Concentrate (61/59)	-	372
Marmoraton Mining Co., Division of Bethlehem Chile Iron Mines Company, near Marmora, Ont.	Bethlehem Steel Corp.	Magnetite from open-pit mine (36)	Pellets (65/65)	490	481
National Steel Corporation of Canada, Ltd., Moose Mountain Mine; Sudbury area, 20 miles north of Capreol, Ont.	National Steel Corp. of Canada, Limited (The Hanna Mining Co. is the managing agent)	Magnetite from open-pit mine (33)	Pellets (64/63)	641	725
Quebec Cartier Mining Company; Gagnon, Quebec	United States Steel Corp.	Specular hematite from open-pit mine (34)	Specular hematite concentrate (66/64)	7, 432	8, 805

Table 1 (cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated Product Shipped	Shipments	
			1972	1973
		(% Fe natural)	(% Fe dry/wet)	('000 wet long tons)
Sherman Mine; near Temagami, Ont.	Dominion Foundries and Steel, Limited, 90%; Tetapaga Mining Company (wholly-owned subsidiary of The Cleveland-Cliffs Iron Company), 10%. The operation and management of the mine is by Cliffs of Canada Limited, also a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company	Magnetite-from open-pit mines (21) ^e	Pellets (66/65)	1,052 1,305
Steep Rock Iron Mines Ltd.; Steep Rock Lake, N. of Atikokan, Ont.	Publicly-owned company	Hematite-goethite from open-pit mine (51)	Concentrate (58/54) Pellets (63/63)	7 1,467 9 1,417
Texada Mines Ltd.; Texada Island, B. C.	Kaiser Aluminum and Chemical Corp.	Magnetite and chalcopyrite from underground mine (35)	Magnetite concentrate (64/61)	614 486
Wabush Mines; Scully Mine includes mine and concentrator at Wabush, Labrador; Pointe Noire Division includes pelletizing plant at Pointe Noire, Que.	The Steel Co. of Canada, Ltd., 25.6%; Dominion Foundries and Steel, Ltd., 16.4%; Youngstown Sheet and Tube Company, 15.6%; Inland Steel Co., 10.2%; Interlake, Inc., 10.2%; Wheeling-Pittsburgh Steel Corp., 10.2%; Finisider of Italy, 6.6%; and Pickands Mather & Co., (managing agent), 5.2%.	Specular hematite and some magnetite from open-pit mine (35)	Pellets (66/64) Concentrate (66/64)	5,310 3 5,371 66

Wesfrob Mines Limited; Tasu Harbour, Moresby Is., Queen Charlotte Is., B.C.	Falconbridge Nickel Mines Limited	Magnetite and chalcopyrite from open-pit mines (37)	Pellet-feed con- centrate (70/63) Sinter-feed con- centrate (61/58)	330 284	496 461
Byproduct Producers					
Cominco Ltd.; Kimberley ³ B.C.	Publicly-owned company	Pyrrhotite flotation con- centrates roasted for acid production; calcine sintered	Iron oxide sinter (63/63) is processed into pig iron at plant	28 ⁴	-
Falconbridge Nickel Mines ³ Ltd.; Falconbridge, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates (57) treated	Iron oxide calcine (67/67)	19	-
The International Nickel Co. of Canada, Ltd.; Copper Cliff, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates (57) ^e treated	Pellets (68/68) ^e	700	624
Quebec Iron and Titanium Corp.; mine at Lac Tio, Que.; electric smelter at Sorel, Quebec	Kennecott Copper Corp.; Gulf & Western Industries, Inc. (The New Jersey Zinc Co.)	Ilmenite-hematite ore (40% Fe, 35% TiO ₂) from open-pit mine at Lac Tio, beneficiated and calcined at Sorel	Ilmenite calcine electric smelted to TiO ₂ slag and various grades of desulphurized pig iron or remelt iron	1,600 ⁵	1,900 ⁵

Sources: Company reports, personal communication.

¹ Includes 170,408 tons of regular sinter; 1,873,844 tons of superfluxed sinter; 1,409 tons of crude ore shipped as food supplement to livestock industry; ² Commenced operations in 1973. ³ Ceased operations in 1972. ⁴ Sinter consumed in pig iron production. ⁵ Ilmenite calcine smelted.
e Estimated; - Nil.

TABLE 2
CRUDE IRON ORE MINED IN CANADA, BY VARIETY AND GRADE 1973

	Hematite		Magnetite		Siderite	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
NEWFOUNDLAND						
Iron Ore Company of Canada	29,959,500	38.7	-	-	-	-
Carol Division	17,988,752	35.03	-	-	-	-
Wabush Mines						
LABRADOR-QUEBEC						
Iron Ore Company of Canada	8,238,941	54.21	-	-	-	-
Schefferville Division	3,516,538	49.42	-	-	-	-
"						
QUEBEC						
Hilton Mines, Ltd.	-	-	3,087,210	19.50	-	-
Quebec Cartier Mining Company	19,737,307	34.2	-	-	-	-
ONTARIO						
Adams Mine	-	-	4,585,332	19.21	-	-
Algoma Ore Division	-	-	-	-	3,249,800	33.5
Caldan Ore Co. Limited	2,817,340	54.82	-	-	-	-
Griffith Mine, The	-	-	5,258,497	24.04	-	-
Marmoraton Mining Co.	-	-	890,067 ¹	35.88 ²	-	-
Moose Mountain Mine	-	-	-	-	-	-
(National Steel)	-	-	1,600,745	33.41	-	-
Sherman Mine	-	-	4,189,262	21 ^e	-	-
Steep Rock Iron Mines Ltd.	1,751,896	51.03	-	-	-	-
BRITISH COLUMBIA						
Texada Mines Ltd.	-	-	977,014	34.83	-	-
Wesfrob Mines Ltd.	-	-	1,590,518	36.73	-	-
Total	84,010,274	39.63	22,178,645	24.38	3,249,800	33.5

Source: Data supplied to Mineral Development Sector by companies.

¹ Cobber product. ² Grade of cobber product. - Nil; e Estimated.

TABLE 3
CANADA, CRUDE IRON ORE MINED IN CANADA, BY MINING METHOD, 1973

	Open Pit		Underground		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
NEWFOUNDLAND						
Iron Ore Co. of Canada	29,959,500	38.7	-	-	29,959,500	38.7
Carol Division	17,988,752	35.03	-	-	17,988,752	35.03
Wabush Mines						
LABRADOR-QUEBEC						
Iron Ore Co. of Canada	8,238,941	54.21 ¹	-	-	8,238,941	54.21
Schefferville Division	3,516,538	49.51 ^{1,2}	-	-	3,516,538	49.51 ²
"						
QUEBEC						
Hilton Mines, Ltd.	3,087,210	19.50	-	-	3,087,210	19.50
Quebec Cartier Mining Company	19,737,307	34.2	-	-	19,737,307	34.2
ONTARIO						
Adams Mine	4,585,332	19.21	-	-	4,585,332	19.21
Algoma Ore Division	-	-	3,249,800	33.5	3,249,800	33.5
Caland Ore Co. Limited	2,817,340	54.82	-	-	2,817,340	54.82
Griffith Mine, The	5,258,497	24.04	-	-	5,258,497	24.04
Marmora Mining Co.	890,067	35.88	-	-	890,067	35.88
Moose Mountain Mine						
(National Steel)	1,600,745	33.41	-	-	1,600,745	33.41
Sherman Mine	4,189,262	21 ^e	-	-	4,189,262	21 ^e
Steep Rock Iron Mines Ltd.	1,572,980	51.00	178,916	49.2	1,751,896	51.03
BRITISH COLUMBIA						
Texada Mines Ltd.	-	-	977,014	34.83	977,014	34.83
Wesfrob Mines Ltd.	1,590,518	36.73	-	-	1,590,518	36.73
Total	105,032,989	36.43	4,405,730	34.43	109,438,719	36.35

Source: Data supplied to Mineral Development Sector.

1 Analysis of shipments; 2 Treat ore for Sept Iles Division concentrator and pelletizing plant;

- Nil; ^e Estimated.

TABLE 4
DISPOSITION OF CRUDE IRON ORE MINED IN CANADA, 1973

	For Direct Shipping		To Concentration Plant		To Concentration and Agglomeration Plant		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
NEWFOUNDLAND								
Iron Ore Co. of Canada	-	-	-	-	29,959,500	38.7	29,959,500	38.7
Carol Division	-	-	-	-	17,988,752	35.03	17,988,752	35.03
Wabush Mines	-	-	-	-	-	-	-	-
LABRADOR-QUEBEC								
Iron Ore Co. of Canada	8,238,941 ¹	54.21	-	-	-	-	8,238,941	54.21
1. Schefferville Division	-	-	-	-	-	-	-	-
2. Sept-Iles Division	-	-	-	-	3,516,538 ¹	49.42	3,516,538 ¹	49.42
QUEBEC								
Hilton Mines, Ltd.	-	-	-	-	3,087,210	19.50	3,087,210	19.50
Quebec Cartier Mining Company	-	-	19,737,307	34.2	-	-	19,737,307	34.2
ONTARIO								
Adams Mine	-	-	-	-	4,585,332	19.21	4,585,332	19.21
Algoma Ore Division	1,409	34.9	-	-	3,248,391	33.5	3,249,800	33.5
Caland Ore Co. Limited	85,970 ²	55.4	-	-	2,647,070	54.81	2,733,040	54.83
Griffith Mine, The	-	-	-	-	5,258,497	24.04	5,258,497	24.04
Marmora Mining Co.	-	-	-	-	890,067 ³	35.88 ⁴	890,067	35.88
Moose Mountain Mine	-	-	-	-	-	-	-	-
(National Steel)	-	-	-	-	1,600,745	33.41	1,600,745	33.41
Sherman Mine	-	-	-	-	4,189,262	21 ^e	4,189,262	21 ^e
Steep Rock Iron Mines Ltd.	-	-	563,042	44.77	1,273,154 ⁵	54.04	1,836,196	51.20
BRITISH COLUMBIA								
Texada Mines Ltd.	-	-	977,014	34.83	-	-	977,014	34.83
Westfrob Mines Ltd.	-	-	1,590,518	36.73	-	-	1,590,518	36.73
Total	8,326,320	54.23	22,867,881	34.67	78,244,518	34.92	109,438,719	36.35

Source: Data supplied to Mineral Development Sector by companies.

¹ Treat ore mined at Schefferville; ² Excluding an estimated 84,300 tons shipped to Steep Rock Iron Mines Ltd.; ³ Cobber product; ⁴ Grade of cobber product; ⁵ Crude ore fed directly to agglomerating plant. Includes an estimated 84,300 tons from Caland. ^e Estimated; - Nil.

TABLE 5
USABLE IRON ORE PRODUCED IN CANADA, BY TYPE OF PRODUCT, 1973

IRON ORE PRODUCERS	Direct Shipping		Concentrates		Agglomerates		Total
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	
NEWFOUNDLAND							
Iron Ore Co. of Canada	-	-	3, 174, 927 ¹	62.88	9, 036, 310	64.98	12, 211, 237
Carol Division	-	-	-	-	5, 150, 810	64.14	5, 150, 810
Wabush Mines	-	-	-	-	-	-	64.43
	-	-	-	-	-	-	64.14
LABRADOR-QUEBEC							
Iron Ore Co. of Canada	8, 238, 941	54.21 ²	-	-	-	-	8, 238, 941
1. Schefferville Division	-	-	-	-	571, 800	61.70	571, 800
2. Sept-Iles Division	-	-	-	-	-	-	54.21
	-	-	-	-	-	-	61.70
QUEBEC							
Hilton Mines, Ltd.	-	-	-	-	898, 784	67.20	898, 784
Quebec Cartier Mining Company	-	-	9, 285, 595	64.20	-	-	9, 285, 595
	-	-	-	-	-	-	67.20
	-	-	-	-	-	-	64.20
ONTARIO							
Adams Mine	-	-	-	-	1, 150, 330	65.13 ⁴	1, 150, 330
Algoma Ore Division	1, 409	34.9	-	-	2, 030, 781	48.4	2, 032, 790
Caland Ore Co.	85, 970	55.40	-	-	1, 114, 993	63.28 ⁴	1, 114, 993
Griffith Mine, The	-	-	1, 292, 125 ⁵	56.85 ⁶	-	-	1, 292, 125
Marmora Mining Co.	-	-	-	-	1, 572, 038	66.58	1, 572, 038
Moose Mountain Mine	-	-	-	-	480, 697	65.4	480, 697
(National Steel)	-	-	-	-	-	-	-
Sherman Mine	-	-	-	-	724, 906	62.34	724, 906
Steep Rock Iron Mines Ltd.	-	-	-	-	1, 146, 015	65.14	1, 146, 015
	-	-	9, 208	54.80	1, 418, 452	62.98	1, 427, 660
BRITISH COLUMBIA							
Texada Mines Ltd.	-	-	455, 867	60.66	-	-	455, 867
Wesfrob Mines Ltd.	-	-	964, 014	60.60	-	-	964, 014
	-	-	-	-	-	-	-
Total Iron Ore	8, 326, 320	54.23	15, 181, 736 ³	62.96	25, 295, 916	63.34	48, 803, 972
	-	-	-	-	-	-	61.67
BYPRODUCT IRON ORE PRODUCERS							
International Nickel Company of Canada, Limited, The (Inco)	-	-	-	-	616, 000	67.6 ⁶	616, 000
(Copper Cliff, Ont.)	-	-	-	-	-	-	-
Total Usable Iron Ore Produced	8, 326, 320	54.23	15, 181, 736 ³	62.96	25, 911, 916	63.44	49, 419, 972
	-	-	-	-	-	-	61.74

Source: Data Supplied to Mineral Development Sector by companies.

¹ Difference between concentrate produced and concentrate sent to pellet plant; ² Analysis of shipments from Sept-Iles; ³ Excludes production of filter cake for use in pellet plant by IOC; ⁴ Analysis of shipments; ⁵ Dry weight.
e Estimated; - Nil.

TABLE 6
WASTE/ORE AND CONCENTRATION RATIOS AT CANADIAN IRON ORE MINES, 1973

	Open Pit Waste	Underground Waste	Iron Ore Mined	Usable Iron Ore Produced	Waste/Ore Ratio	Waste/Usable Ore Ratio	Concentration Ratio	Fe Recovery
	(long tons)							
NEWFOUNDLAND								
Iron Ore Co. of Canada								
Carol Division	11,143,836 ¹	-	29,959,500	12,211,237 ²	0.372	0.913	2.253	0.679
Wabush Mines	4,737,189	-	17,988,752	5,150,810	0.263	0.920	3.492	0.524
LABRADOR-QUEBEC								
Iron Ore Co. of Canada								
Schefferville	21,547,312 ¹		8,238,941 ³	8,238,941	{ 1.833	2.218	{ 2.382	1.000
			3,516,538	1,476,600 ²				0.528
QUEBEC								
Hilton Mines, Ltd.	364,509	-	3,087,210	898,784	0.118	0.406	3.435	0.996
Quebec Cartier Mining Company	3,170,000 ¹	-	19,737,306	9,073,093	0.161	0.349	2.175	0.883
ONTARIO								
Adams Mine	2,326,944	-	4,585,332	1,150,330	0.507	2.023	3.986	0.851
Algoma Ore Division	-	6,547	3,249,800	2,032,190	0.002	0.003	1.600	0.903
Caland Ore Co.	5,459,752	-	2,817,340	2,493,088	1.938	2.190	1.181 ⁵	0.896
Griffith Mine, The	6,529,219	-	5,258,497	1,572,038	1.242	4.153	3.345	0.828
Marmaraton Mining Co.	2,770,779	-	1,780,134 ⁶	480,697	1.557	5.764	3.703	0.86e
Moose Mountain Mine (National Steel)	592,600 ¹	-	1,600,745	724,906 ⁴	0.370	0.817	2.208	0.845
Sherman Mine	3,372,334 ¹	-	4,189,262	1,146,015	0.805	2.943	3.656	0.849
Sleep Rock Iron Mines Ltd.	6,540,653	-	1,836,196 ⁷	1,427,660	3.562	4.581	1.286	0.89e
BRITISH COLUMBIA								
Texada Mines Ltd.	-	696	977,014	455,867	0.001	0.002	2.143	0.813
Wesfrob Mines Ltd.	1,027,950 ¹	-	1,590,518	964,014	0.646	1.066	1.650	1.000

¹ Source: Data supplied to Mineral Development Sector by companies.

² Calculated from data supplied by companies in cubic yards by using a factor of 2 long tons = 1 cubic yard.

³ Schefferville "treat ore"; ⁴ Shipments; ⁵ Estimated tonnage of cobber product multiplied by a factor of 2; ⁶ Including 84,300 tons from Caland. - Nil; e Estimated.

TABLE 7
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS,
BY TYPE OF PRODUCT, 1973

	Direct Shipping		Concentrates		Agglomerates		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
IRON ORE PRODUCERS								
NEWFOUNDLAND								
Iron Ore Co. of Canada	-	-	3,047,300	62.95	9,721,210	63.93	12,768,510	63.70
Carol Division	-	-	65,735	63.82	5,371,475	64.14	5,437,210	64.14
Wabush Mines	-	-	-	-	-	-	-	-
LABRADOR-QUEBEC								
Iron Ore Co. of Canada	7,211,889	54.21	-	-	-	-	7,211,889	54.21
1. Knob Lake Division	-	-	-	-	-	-	372,490	61.54
2. Sept-Iles Division	-	-	-	-	-	-	-	-
QUEBEC								
Hilton Mines, Ltd.	-	-	-	-	870,240 ²	67.11	870,240	67.11
Quebec Cartier Mining Company	-	-	8,805,839	64.20	-	-	8,805,839	64.20
ONTARIO								
Adams Mine	-	-	-	-	1,173,711	65.13	1,173,711	65.13
Algoma Ore Division	1,409	34.9	-	-	2,044,252	48.4	2,045,661	48.39
Caland Ore Co.	85,970	55.40	928,064	56.6	1,178,833	63.28	2,192,867	60.14
Griffith Mine, The	-	-	-	-	1,506,617	65.58	1,506,617	65.58
Marmora Mining Co.	-	-	-	-	481,697	65.44	481,697	65.44
Moose Mountain Mine	-	-	-	-	724,906	65.4	724,906	65.4
(National Steel)	-	-	-	-	1,034,509	65.14	1,034,509	65.14
Sherman Mine	-	-	-	-	1,417,162	63.03	1,426,370	62.94
Steep Rock Iron Mines Ltd.	-	-	9,208	48.99	-	-	-	-
BRITISH COLUMBIA								
Texada Mines Ltd.	-	-	485,505	60.66	-	-	485,505	60.66
Westrob Mines Ltd.	-	-	956,674	60.61	-	-	956,674	60.61
Total Iron Ore	7,299,268	54.22	14,298,325	63.07	25,897,102	63.01	47,528,687	61.60
BYPRODUCT IRON ORE PRODUCER								
Inco (Copper Cliff, Ont.)	-	-	-	-	624,000	67.6 ^e	624,000	67.6 ^e
Total Usable Iron Ore Shipped	7,299,268	54.22	14,298,325	63.07	26,521,102	63.12	48,118,695	61.72

Source: Data supplied to Mineral Development Sector by companies.

1 Includes 19,873 tons of chips grading 62.9% Fe.

2 Includes 465 tons of chips and 538 tons of media ore.

3 Run-of-mine upgraded slightly through process of crushing, screening and drying.

4 Dry weight.

5 Shipped to Steep Rock Iron Mines Ltd.

- Nil; e Estimated.

TABLE 8
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY DESTINATION 1973

Iron Ore Producers	Canada		United States					Japan	Other	Total
	All Rail	Other	Great Lakes	Other Ports	All Rail	Britain	ECSC			
Newfoundland										
Iron Ore Co. of Canada										
Carol Div. (concentrate)	-	-	4,600	-	-	530,800	988,850	1,482,150	40,900	3,047,300
Carol Div. (pellets)	-	613,730	4,223,410	2,739,490	-	695,470	1,025,440	-	423,670	9,721,210
Wabush Mines (pellets)	-	2,564,095	1,541,210	445,285	-	474,643	366,115	-	-	5,391,348
(concentrates)	-	-	45,862	-	-	-	-	-	-	45,862
Labrador-Quebec										
Iron Ore Co. of Canada										
1. Scheierville direct shipping ore	-	-	2,784,070	1,932,776	-	1,163,591	960,749	370,703	-	7,211,889
2. Sept-Îles pellets	-	-	282,710	89,780	-	-	-	-	-	372,490
Quebec										
Hillman Mines, Ltd. (pellets)	479,173 ¹	-	-	-	350,529	-	-	-	-	869,702
(concentrates)	-	-	-	-	538	-	-	-	-	538
Quebec Cartier Mining Company ^e	-	N.A.	2,458,751 ²	-	-	1,945,161 ²	3,163,492 ²	747,735 ²	298,764 ²	8,615,903 ^{2,3}
Ontario										
Adams Mine (pellets)	769,241	-	-	-	404,470	-	-	-	-	1,173,711
Algoma Ore Division	1,878,928	165,324	-	-	1,409	-	-	-	-	2,045,661
Caland Ore Co.	-	-	-	-	-	-	-	-	-	-
Direct shipping Concentrates	85,970	-	-	-	-	-	-	-	-	85,970
Pellets	-	-	928,064	-	-	-	-	-	-	928,064
Griffith Mine, The (pellets)	-	1,506,617	1,178,833	-	-	-	-	-	-	1,178,833
Marmora Mining Co. (pellets)	-	-	-	-	-	-	-	-	-	1,506,617
Moose Mountain Mine- (pellets)	-	-	468,336	-	13,361	-	-	-	-	481,697
National Steel (pellets)	-	-	724,906	-	-	-	-	-	-	724,906
Sherman Mine (pellets)	1,034,509	-	-	-	-	-	-	-	-	1,034,509
Steep Rock Iron Mines Ltd. (pellets)	-	1,182,366	234,796	-	-	-	-	-	-	1,417,162
(concentrates)	9,208	-	-	-	-	-	-	-	-	9,208
British Columbia										
Texada Mines Ltd. (conc.)	-	-	-	-	-	-	-	485,505	-	485,505
Westbro Mines Ltd. (conc.)	-	-	-	206,692	-	-	-	736,661	13,321	956,674
Byproduct Iron Ore Producers Inc., Copper Cliff, Ont. (pellets)	165,000	-	459,000	-	-	-	-	-	-	624,000
Total Usable Iron Ore Shipped	4,422,029	6,032,132	15,334,548	5,414,023	810,307	4,809,665	6,504,646	3,822,754	776,655	48,118,695 ⁴

Source: Data supplied to Mineral Development Sector by Companies.

¹ Includes 865 tons of pellet chips; ² Source: Canadian Transport Commission; ³ Compares with 8,805,839 tons reported by QCM; ⁴ Includes 8,805,839 tons from Quebec Cartier Mining Co.

N.A. Not available; - Nil; e Estimated.

TABLE 9
STOCKS OF USABLE IRON ORE AT MINES AND SHIPPING
PORTS IN CANADA, 1972-73

(long tons)

	December 31, 1972	December 31, 1973	Change in Stocks
NEWFOUNDLAND			
Iron Ore Company of Canada			
At Sept-Îles			
Concentrates	21,894 ¹	81,390 ¹	+59,496
Pellets	188,447 ¹	429,401 ²	+240,954
At Labrador City			
Concentrates	164,960	186,399	+21,439
Pellets	864,920	125,517	-739,403
Wabush Mines ³	496,420	255,882	-240,538
Wabana Mines ³	55,000	55,000	-
LABRADOR-QUEBEC			
Iron Ore Company of Canada			
Schefferville (at Sept-Îles)	2,383,508	2,866,391	+482,883
QUEBEC			
Hilton Mines, Ltd.	94,408	122,952 ⁴	+28,544
Quebec Cartier Mining Company	618,580	888,012	+269,432
ONTARIO			
Adams Mine	88,992	151,929	+62,937
Algoma Ore Division	129,121	84,112	-45,009
Caland Ore Co. Ltd.	907,682	1,292,203	+384,521
Griffith Mine, The ⁵	8,030	73,451	+65,421
Marmoraton Mining Co.	23,997	28,167	+4,170
Moose Mountain Mine (National Steel)	75,222	35,843	-39,379
Sherman Mine	5,801	2,705	-3,096
Steep Rock Iron Mines Ltd.	963,738	939,547	-24,191
BRITISH COLUMBIA			
Texada Mines Ltd.	25,615	28,018	+2,403
Wesfrob Mines Limited	114,337	121,677	+7,340
Total	7,230,672	7,768,596	+537,924

¹ From Carol operation.

² 230,091 tons from Carol Operation and 199,310 from Sept-Îles pellet plant.

³ No ore shipped 1970-73.

⁴ Stockpile as of December 31, 1972 plus the difference between production and shipments.

⁵ Excluding stocks at Thunder Bay.

TABLE 10
ANALYSES OF CANADIAN IRON ORE SHIPMENTS IN 1973

	Shipments (long wet tons)	Dry Analysis										Loss by Moisture Ignition	Size Range	
		Natural		Fe	P	SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S			
		Fe	tons)											
g														
Newfoundland														
Iron Ore Company of Canada, Carol Operation	9,721,210	63.93	64.98	0.009	5.79	0.15	0.36	...	...	...	...	...	1.61	
Carol Pellets	3,060,159	62.95	65.34	0.009	5.46	0.14	0.25	...	...	...	...	...	3.65	
Carol Concentrate	12,781,369	63.70	65.07	0.009	5.72	0.14	0.33	...	...	...	...	...	2.10	
Total Carol Operation														
Wabush Mines														
Pellets	5,371,475	64.14	65.66	...	2.90	1.88	...	...	...	...	...	...	2.31	
Chips	19,873	62.97	65.76	...	3.04	1.63	...	...	...	...	...	...	2.44	
Concentrate	45,862	64.19	65.85	...	2.28	1.72	...	...	...	...	...	...	2.53	
Total Wabush Mines	5,437,210	64.13	65.66	...	2.90	1.88	...	...	...	...	...	...	2.31	
Quebec-Labrador														
Iron Ore Company of Canada, Schefferville														
A. Schefferville Direct Shipping Ore														
Quebec														
Non-Bessemer Labrador	3,161,440	53.12	58.85	0.099	8.94	1.21	1.16	...	...	...	...	...	9.74	
Non-Bessemer	4,015,506	55.07	60.59	0.062	8.20	0.18	1.50	...	...	...	...	...	9.11	
Total Schefferville Direct Shipping Ore	7,176,946	54.21	59.83	0.078	8.52	0.63	1.35	...	...	...	...	...	9.39	
B. Sept-Iles Operation*														
Quebec														
Sept-Iles Pellets	266,740	59.22	60.68	0.049	6.95	0.52	1.15	...	...	...	...	...	2.41	
Sept-Iles Concentrate	15,814	53.39	58.55	0.053	7.22	0.67	1.02	...	...	...	...	...	8.82	
Labrador														
Sept-Iles Pellets	105,750	67.37	69.28	0.057	7.93	0.60	1.31	...	...	...	...	...	2.75	
Sept-Iles Concentrate	6,269	60.74	67.52	0.061	8.33	0.77	1.18	...	...	...	...	...	10.04	
Total Sept Iles Operation	394,573	61.19	63.01	0.053	7.46	0.57	1.22	...	...	...	...	...	2.88	
Quebec														
Quebec Cartier Mining Company Concentrate	8,805,839	64.20	65.85	...	5.00	...	0.75	...	...	...	...	...	2.6	- 10 mesh +200 mesh
Hilton Mines, Ltd.														
Hilton Pellets	868,837	67.116	67.230	0.006	1.96	0.078	0.28	0.22	1.38	0.005	2 ¹	0.17	$\frac{1}{4}$ " - 5/8"	
Hilton Chips	865	63.252	66.990	0.007	2.15	0.076	0.28	0.24	1.31	0.004	2 ¹	5.58	$\frac{1}{4}$ "	
Hilton Media	538	61.428	66.937	0.005	2.12	0.063	0.22	0.20	1.24	0.209	0	9.23	60.8% - 325 mesh	
Total Hilton Mines	870,240	67.109	67.230	0.006	1.96	0.078	0.28	0.22	1.38	0.005	2 ¹	0.18		

Ontario													
Adams Mine	1,173,711	65.13	65.59	0.017	4.97	0.09	0.21	0.22	0.36	0.001	...	0.70	89.71% + 3/8"
Adams Pellets													
Algoma Ore Division	170,408	50.01	50.52	0.020	10.79	2.85	1.60	4.68	8.24	0.107	1.19 ¹	1.00	
Algoma Sinter (regular)	1,873,844	48.34	48.34	0.025	9.98	2.63	1.61	9.54	7.92	0.099	1.19 ¹	...	
Algoma Sinter (superfluxed)	1,409	34.9	...	...	...	...	...	...	...	...	...	...
Algoma Crude	2,045,661	48.42	48.44	0.025	10.03	2.64	1.61	9.29	7.93	0.099	1.19	0.05	
Total, Algoma													
Caland Ore Company Limited													
Caland Pellets	1,178,833	63.28	64.04	0.022	5.51	0.25	1.08	0.20	0.25	...	...	1.18	3/4" x 3/8"
Warren Coarse	898,274	56.61	59.01	0.023	4.66	0.15	0.54	0.18	0.22	...	...	4.07	2" x 3/8"
Scott Fines													
Caland Crude	29,790	56.82	58.95	0.020	4.93	0.16	0.90	0.18	0.22	...	...	3.61	3/8" x 0"
Total, Caland	85,970	55.40	59.99	...	...	...	...	...	...	...	...	7.66	Run of mine
	2,192,867	60.15	61.75	0.022	5.02	0.20	0.83	0.19	0.23	...	...	2.65	
Griffith Mine, The													
Pellets	1,506,617	66.58	66.83	0.02	3.55	0.06	0.39	...	...	...	...	0.38	86.54% + 3/8" - 5/8"
Marmoraton Mining Co.													
Pellets	480,697	...	65.4	0.006	3.54	0.08	0.60	1.38	0.72	0.10	...	...
National Steel Corporation of Canada, Limited													
Pellets	668,322	62.68	63.51	0.01	8.01	0.015	0.57	...	...	...	...	1.31	97.86% + 1/4"
Chips	56,584	58.30	61.13	0.012	11.22	0.016	0.62	...	...	...	...	4.37	5.63% + 1/4"
Total, National Steel	724,906	62.34	63.32	0.01	8.26	0.015	0.57	...	...	...	...	1.54	90.56% + 1/4"
Sherman Mine													
Pellets	1,034,509	65.14	65.73	0.022	5.61	0.06	0.31	0.17	0.30	0.003	0.08 ¹	0.90	-5/8 + 3/4"
Steep Rock Iron Mines Ltd.													
ASC Pellets	1,182,366	63.116	65.35	0.02	7.15	0.20	1.3	0.2 ^e	0.2 ^e	0.008	...	0.37	-1/4 + 1/4"
DSC Pellets	234,796	62.622	63.00	0.02 ^e	7.044	0.20 ^e	1.4	0.27	0.19	0.006	...	0.60	-1/4 + 1/4"
SR Fines	9,208	48.990	53.60	...	12.0 ^e	...	...	...	...	...	8.0 ^e	8.60	
Total, Steep Rock	1,426,370	62.94	63.24	0.02 ^e	7.26	0.2 ^e	1.3	0.21	0.2 ^e	0.008	...	0.46	
British Columbia													
Texada Mines Ltd.	485,505	60.66	64.22	0.010	4.653	0.146	0.717	2.428	0.518	0.941	...	5.545	
Magnetite concentrate													
Wesfrob Mines Limited	461,009	57.66	60.69	0.02	6.30	...	1.42	...	...	1.03	...	5.0	30% passing 149 microns, remainder passing 4,000 microns
Sinter Feed													

Table 10 (cont'd)

	Shipments (long wet tons)	Dry Analysis									Loss by Ignition	Moisture	Size Range	
		Natural												
		Fe	P	SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S					
%														
Pellet Feed	495,665	63.35	69.62	0.01	1.44	...	0.48	...	...	0.24	...	...	9.0	80% greater than 44 microns, remainder passing 1,680 microns
Total Wesfrob	956,674	60.61	65.22	0.01	3.63	...	0.94	...	...	0.63	...	...	7.3	80% less than 44 microns

* Treat ore mined in Quebec and Labrador is concentrated and pelletized at Sept-Îles.

1 Gain on ignition.

TABLE 11
Canadian Consumption of Iron Bearing Materials at Iron-Steel Plants, ¹ 1973

	In Sinter Plants ²	In Iron and Steel Furnaces		
		Pig Iron Furnaces	Steel Furnaces	Total in Furnaces
(long tons)				
IRON ORE				
Crude and concentrates	338,360	504,021	45,822	549,843
Pellets	218,384	9,999,265	113,552	10,112,817
Sinter from mines	48,530	1,975,096	-	1,975,096
Sub Total	605,274	12,478,382	159,374	12,637,756
Sinter produced at Steel Plant				
Total	-	1,129,222 ³	-	1,129,222
% Fe	605,274	13,607,604	159,374	13,766,978 ⁴
	59.09	61.88	66.57	61.93
OTHER IRON-BEARING MATERIALS				
Flue dust	183,939	-	-	-
Scale, reduced pellets, etc.	350,165	415,814	297	416,111
Total	534,104	415,814	297	416,111
% Fe	49.25	36.43	60.01	36.45

Source: Company data supplied to Mineral Development Sector.

¹ All integrated producers; excludes Quebec Iron and Titanium Corp; 2 Sinter plant located at steel works consume new iron ore "screenings" as well as other iron bearing materials; 3 Sinter produced mainly from 605,274 tons of "new iron ore" and 534,104 tons of other iron bearing materials; ⁴ Including any sintered iron bearing materials. Total iron ore consumption of "new iron ore" is an estimated 13.243 million tons, comprising 12.638 million tons of iron ore and, neglecting losses or gains in weight due to sintering, 0.605 million tons of iron ore fines.

- Nil.

1974 STATISTICAL REVIEW,
BY COMPANY

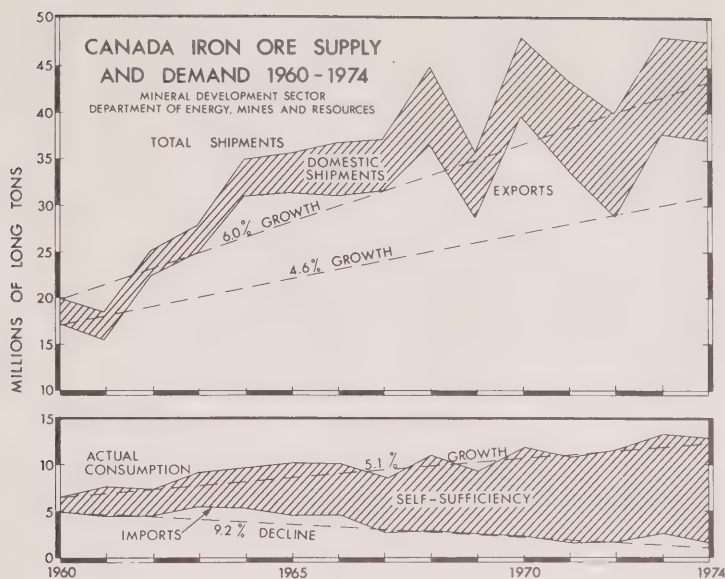


Figure 2

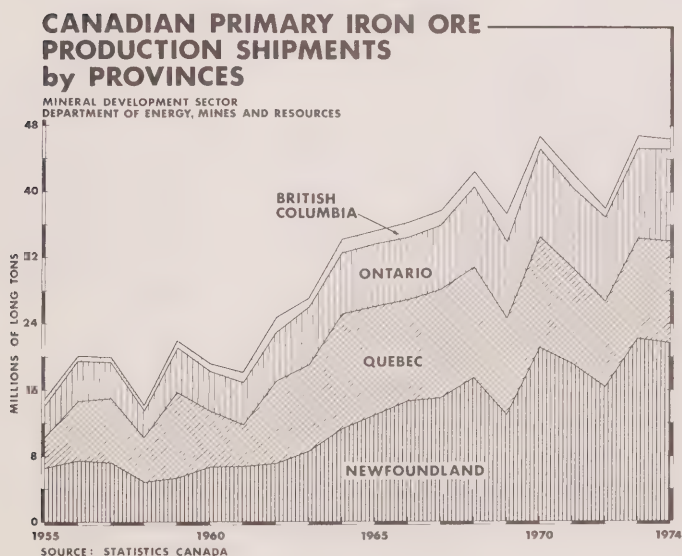


Figure 3

TABLE 12
CANADA, IRON ORE PRODUCERS, 1973 AND 1974

Company and Property Location	Participating Companies	Material Mined and/or Treated 1974 (% Fe natural)		Product Shipped 1974 (% Fe dry/wet)		Shipments 1973 1974 ('000 wet long tons)	
Adams Mine: Boston Twp., near Kirkland Lake, Ont.	Dominion Foundries and Steel, Ltd.; managed by Cliffs of Canada Limited, a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company	Magnetite from open-pit mine (21)		Pellets (66/65)		1, 174	1, 142
Algoma Ore Division of The Algoma Steel Corp., Ltd.; mines and sinter plant near Wawa, Ont.	Wholly owned	Siderite from open-pit and underground mine (33)		Siderite sinter (48/48)		2, 046	2, 077 ¹
Caland Ore Co. Ltd.; east arm of Steep Rock Lake, near Atikokan, Ont.	Inland Steel Co.	Hematite and goethite from open-pit mine (54)		Pellets (64/64) Concentrate (59/56) Direct Shipping (60/55) ²		1, 178	1, 034
						928	930
Griffith Mine, The; Bruce Lake, 35 miles south of Red Lake, Ont.	The Steel Co. of Canada, Ltd.; managed by Pickands Mather & Co.	Magnetite from open-pit mine (23)		Pellets (67/67)		1, 506	1, 569
Hilton Mines, Ltd., near Shawville, Quebec, 40 miles NW of Ottawa	The Steel Co. of Canada Ltd., 50%; Jones & Laughlin Steel Corp., 25%; Pickands Mather & Co. (managing agent), 25%	Magnetite from open-pit mine (22)		Pellets (67/67)		870	930
Iron Ore Company of Canada	Labrador Mining and Exploration Company Ltd., 4.73%; Hollinger Mines Ltd., 10.17%; The Hanna Mining Co. (managing agent), 26.37%;	Hematite-goethite-limonite from open-pit mines (54)		Direct-shipping ore (50/54)		7, 211	6, 568
1. Schefferville, Quebec-Labrador operation							

2. Carol Lake, Labrador operation	Bethlehem Steel Corp. 18.80%; Armco Steel Corp., 5.87%; Lykes-Youngstown Corp., 5.87%;	Specular hematite and magnetite from open-pit mines (39)	Pellets (64/64) Conc. (63/62)	9,721 3,060	7,572 4,443
3. Sept-Iles, Que., ³ Pellet operation	National Steel Corp. of Canada Limited, 17.62%; Republic Steel Corp., 5.87%; Wheeling-Pittsburgh Steel Corp., 4.70%	Hematite-goethite-limonite from open-pit mines, Schefferville area Treat-Ore (50)	Pellets (63/61) Conc. (61/59)	372 22	1,885 —
Marmoraton Mining Co., Division of Bethlehem Chile Iron Mines, Company, near Warmora, Ont.	Bethlehem Steel Corp.	Magnetite from open-pit mine (43)	Pellets (65/65)	481	520
National Steel Corporation of Canada, Ltd., Moose Mountain Mine: Sudbury area, 20 miles north of Capreol, Ont.	National Steel Corp. of Canada Limited (The Hanna Mining Co. is the managing agent)	Magnetite from open-pit mine (34)	Pellets (63/62)	725	686
Quebec Cartier Mining Company; Gagnon, Quebec	United States Steel Corp.	Specular hematite from open-pit mine (35)	Specular hematite 8,805 conc. (66/64)	8,450	
Sherman Mine; near Temagami, Ont.	Dominion Foundries and Steel, Limited, 90% Tetapaga Mining Company (wholly-owned subsidiary of The Cleveland-Cliffs Iron Company), 10%. The operation and management of the mine is by Cliffs of Canada Limited, also a wholly-owned subsidiary of The Cleveland-Cliffs Iron Company	Magnetite from open-pit mines (22)	Pellets (66/65)	1,305	1,029

TABLE 12 (cont'd)

Company and Property Location	Participating Companies	Material Mined and/or Treated 1974 (% Fe natural)	Product Shipped 1974 (% Fe dry/wet)	Shipments	
				1973	1974
					('000 wet long tons)
Steep Rock Iron Mines Ltd.; Steep Rock Lake, N. of Atikokan, Ont.	Publicly-owned company	Hematite-goethite from open-pit mine (50)	Conc. (58/54) Pellets (62/62)	9 1,417	12 1,341
Texada Mines Ltd.; Texada Island, B.C.	Kaiser Aluminum and Chemical Corp.	Magnetite and chalcopyrite from underground mine (31)	Magnetite concen- trate (64/60)	486	326
Wabush Mines; Scully Mine includes mine and concentrator at Wabush, Labrador; Pointe Noire Division includes pel- letizing plant at Pointe Noire, Que.	The Steel Co. of Canada Ltd., 25.6%; Dominion Foundries and Steel, Ltd., 16.4%; Youngstown Sheet and Tube Company, 15.6%; Inland Steel Co., 10.2%; Interlake, Inc., 10.2%; Wheeling-Pittsburgh Steel Corp., 10.2%; Finsider of Italy, 6.6%; and Pickands Mather & Co., (managing agent), 5.2%	Specular hematite and some magnetite from open-pit mine (35)	Pellets (66/64) Conc. (66/64)	5,371 66	5,445 18
Wesfrob Mines Limited; Tasu Harbour, Moresby Is., Queen Charlotte Is., B.C.	Falconbridge Nickel Mines Limited	Magnetite and chalcopyrite from open-pit mines (40)	Pellet-feed con- centrate (69/63) Sinter-feed con- centrate (61/58)	496 461	617 413
Byproduct Producers					
The International Nickel Co. of Canada, Ltd.; Copper Cliff, Ont.	Publicly-owned company	Pyrrhotite flotation concentrates (57) treated	Pellets (66/65)	624	598

Quebec Iron and Titanium Corp.; mine at Lac Tio, Que.; electric smelter at Sorel, Quebec	Kennecott Copper Corp.; Gulf & Western Industries Inc. (The New Jersey Zinc Co.)	Ilmenite-hematite ore (40% Fe, 35% TiO ₂) from open-pit mine at Lac Tio, beneficiated and calcined at Sorel	Ilmenite calcine electric smelted to TiO ₂ slag and various grades of desulphurized pig iron or remelt iron	5794	553 ⁴
--	--	---	--	------	------------------

Sources: Company reports, personal communication.

¹ Includes 80,832 tons of regular sinter; 1,993,623 tons of superfluxed sinter; 2,227 tons of crude ore shipped as food supplement to livestock industry.

² Excludes 115,084 tons of direct shipping ore sent to Steep Rock Iron Mines Ltd.

³ Commenced operations in 1973.

⁴ Pig Iron.

- Nil.

TABLE 13
CRUDE IRON ORE MINED IN CANADA, BY VARIETY AND GRADE, 1974

	Hematite		Magnetite		Siderite	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada						
Carol Division	32,663,400	38.60	-	-	-	-
Wabush Mines	17,335,519	34.73	-	-	-	-
Labrador-Quebec						
Iron Ore Company of Canada						
(Schefferville)	7,206,320 ¹	54.12	-	-	-	-
	4,496,210 ²	50.40	-	-	-	-
Quebec						
Hilton Mines, Ltd.	-	-	2,969,140	22.02	-	-
Quebec Cartier Mining Company	17,748,787	34.80	-	-	-	-
Ontario						
Adams Mine	-	-	4,249,474	21.06	-	-
Algoma Ore Division	-	-	-	-	3,146,111	33.0
Caland Ore Co.	2,284,049	54.00	-	-	-	-
Griffith Mine, The	-	-	5,569,351	22.76	-	-
Marmora Mining Co.	-	-	887,918 ³	43.03 ⁴	-	-
Moose Mountain Mine	-	-	1,660,684	34.02	-	-
(National Steel)						
Sherman Mine	-	-	4,219,853	22.47	-	-
Steep Rock Iron Mines	1,936,457	50.28	-	-	-	-
British Columbia						
Texada Mines Ltd.	-	-	848,577	30.80	-	-
Wesfrob Mines Limited	-	-	1,859,952	39.77	-	-
Total	83,670,742	39.65	22,264,949	25.63	3,146,111	33.0

Source: Data supplied to Mineral Development Sector by companies.

1 Includes 166,589 tons of manganese ore.

2 Treat ore for Sept-Isles Division concentrator and pelletizing operations.

3 Cobber product.

4 Grade of cobber product.

- Nil.

TABLE 14
CRUDE IRON ORE MINED IN CANADA, BY MINING METHOD, 1974

	Open Pit		Underground		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland						
Iron Ore Company of Canada						
Carol Division	32,663,400	38.60			32,663,400	38.60
Wabush Mines	17,335,519	34.73			17,335,519	34.73
Labrador-Quebec						
Iron Ore Company of Canada						
(Schefferville)	7,206,320 ¹	54.12 ¹			7,206,320	54.12
	4,496,210 ²	50.40 ¹			4,496,210	50.40
Quebec						
Hilton Mines, Ltd.	2,969,140	22.02			2,969,140	22.02
Quebec Cartier Mining Company	17,748,787	34.80			17,748,787	34.80
Ontario						
Adams Mine	4,249,474	21.06			4,249,474	21.06
Algoma Ore Division						
Caldwell Ore Co. ³			3,146,111	33.0	3,146,111	33.00
Griffith Mine, The	2,284,049	54.00			2,284,049	54.00
Marmoraton Mining Co.	5,569,351	22.76			5,569,351	22.76
Moose Mountain Mine	887,918	43.03			887,918	43.03
(National Steel)	1,660,684	34.02			1,660,684	34.02
Sherman Mine	4,219,853	22.47			4,219,853	22.47
Steep Rock Iron Mines	1,936,457	50.28			1,936,457	50.28
British Columbia						
Texada Mines Ltd.	26,663	30.80 ¹			848,577	30.80 ¹
Wesfrob Mines Limited	1,859,952	39.77	821,914	30.80 ¹	1,859,952	39.77
Total	105,113,777	36.75	3,968,025	32.54	109,081,802	36.60

Source: Data supplied to Mineral Development Sector.

¹ Analysis of shipments; ² Treat ore for Sept-Iles Division concentrator and pelletizing plant; ³ Direct shipping ore included in Steep Rock Iron Mines Ltd.
- Nil; ^e Estimated.

TABLE 15
DISPOSITION OF CRUDE IRON ORE MINED IN CANADA, 1974

	For Direct Shipping		To Concentration Plant		To Conc. Plant & Aggl. Plant		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
Newfoundland								
Iron Ore Company of Canada								
Carol Division	-	-	-	-	32,663,400	38.60	32,663,400	38.60
Wabush Mines	-	-	-	-	17,335,519	34.73	17,335,519	34.73
Labrador-Quebec								
Iron Ore Company of Canada								
1. Schefferville Division	7,206,320	54.12	-	-	-	-	7,206,320	54.12
2. Sept-Iles Division	-	-	-	-	4,496,210 ¹	50.40	4,496,210	50.40
Quebec								
Hilton Mines, Ltd.	-	-	-	-	2,969,140	22.02	2,969,140	22.02
Quebec Cartier Mining Company	-	-	17,748,787	34.80	-	-	17,748,787	34.80
Ontario								
Adams Mine	-	-	-	-	4,249,474	21.06	4,249,474	21.06
Algoma Ore Division	2,227	34.5	-	-	3,143,884	33.00	3,146,111	33.00
Caland Ore Co. ²	-	-	-	-	2,168,965	54.00	2,168,965	54.00
Griffith Mine, The	-	-	-	-	5,569,351	22.76	5,569,351	22.76
Marmora Mining Co.	-	-	-	-	887,918 ³	43.03 ⁴	887,918	43.03
Moose Mountain Mine (National Steel)	-	-	-	-	1,660,684	34.02	1,660,684	34.02
Sherman Mine	-	-	-	-	4,219,853	22.47	4,219,853	22.47
Steep Rock Iron Mines	12,283	49.24	599,744	44.30	1,439,514 ⁵	53.07	2,051,541	50.48
British Columbia								
Texada Mines Ltd.	-	-	848,577	30.80	-	-	848,577	30.80
Wesfrob Mines Limited	-	-	1,859,952	39.77	-	-	1,859,952	39.77
Total	7,220,830	54.11	21,057,060	35.35	80,803,912	35.37	109,081,802	36.61

Source: Data supplied to Mineral Development Sector by companies.

1 Treat ore mined at Schefferville; 2 Excluding an estimated 199,384 tons shipped to Steep Rock Iron Mines Ltd.; 3 Cobber product; 4 Grade of cobber product; 5 Crude ore fed directly to agglomerating plant. Includes a direct-shipping ore from Caland.

e Estimated: - Nil.

TABLE 16
USABLE IRON ORE PRODUCED IN CANADA, BY TYPE OF PRODUCT, 1974

	Direct Shipping		Concentrates		Agglomerates		Total
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	
Newfoundland							
Iron Ore Company of Canada	-	-	4,761,047 ¹	61.80	7,968,719	64.70	12,729,766
Carol Division	-	-	-	-	5,762,792	64.01	5,762,792
Wabush Mines							
Labrador-Quebec							
Iron Ore Company of Canada							
1. Schefferville Division	7,206,320	54.12 ²	-	-	-	-	7,206,320
2. Sept-Iles Division	-	-	-	-	1,999,074	61.50	1,999,074
Quebec							
Hilton Mines, Ltd.	-	-	-	-	891,302	66.56	891,302
Quebec Cartier Mining Company	-	-	8,547,548	64.05	-	-	8,547,548
Ontario							
Adams Mine	-	-	-	-	1,134,687	65.15	1,134,687
Algoma Ore Division	2,227	34.5	-	-	2,059,458	47.90	2,061,685
Galand Ore Co.	-	-	952,262	56.59 ^e	999,451	63.54 ³	1,951,713
Griffith Mine, The	-	-	-	-	1,516,760	66.71	1,516,760
Marmora Mining Co.	-	-	-	-	502,456	65.50	502,456
Moose Mountain Mine	-	-	-	-	679,208	62.37	679,208
(National Steel)	-	-	-	-	1,028,854	65.21	1,208,854
Sherman Mine	-	-	-	-	1,348,287	62.15	1,360,570
Steep Rock Iron Mines	12,283	49.24	-	-	-	-	325,663
British Columbia	-	-	325,663	59.81	-	-	325,663
Texada Mines Ltd.	-	-	919,599	65.77	-	-	919,599
Westfrob Mines Limited	-	-	-	-	-	-	-
Total Iron Ore					569,000	66.40 ^e	569,000
Byproduct Iron Ore							
Inco (Copper Cliff, Ont.)	-	-	-	-	-	-	-
Total Usable Iron ore	7,220,830	54.11	15,506,119	62.91	26,460,048	63.04	49,186,997
Produced							

Source: Data supplied to Mineral Development Sector by companies.

¹ Difference between concentrate produced and concentrate sent to pellet plant; ² Analysis of shipments from Sept-Iles; ³ Analysis of shipments; ⁴ Dry weight; ^e Estimated; - Nil.

TABLE 17
WASTE/ORE AND CONCENTRATION RATIOS AT CANADIAN IRON ORE MINES, 1974

	Open Pit Waste	Underground Waste	Iron Ore Mined	Usable Iron Ore Produced	Waste/Ore Ratio	Waste/Usable Ore Ratio	Concentration Ratio	Fe Recovery
(long tons)								
Newfoundland								
Iron Ore Company of Canada								
Carol Division	9,358,226 ¹	-	32,663,400	12,729,766 ²	0.287	0.735	1.557	
Wabush Mines	5,511,354	-	17,335,519	5,762,792	0.317	0.956	3.008	0.613
Labrador Quebec								
Iron Ore Company of Canada								
Schefferville	25,272,282 ¹	-	{ 7,206,320 4,496,210 ³ }	{ 7,206,320 1,999,074 ² }	2.160	2.745	1.000 2.249	1.000 0.694
Quebec								
Hilton Mines, Ltd.	1,518,369	-	2,969,140	891,302	0.511	1.704	3.331	0.948
Quebec Cartier Mining Company	1,734,000 ¹	-	17,748,787	8,547,548	0.098	0.203	2.077	0.886
Ontario								
Adams Mine	2,368,778	-	4,249,474	1,134,687	0.557	2.088	3.745	0.826
Algoma Ore Division		8,487	3,146,111	2,061,685	0.003	0.004	1.602	0.906 ⁴
Caland Ore Co.	5,694,116	-	2,284,049	1,951,713	2.493	2.917	1.170 ⁵	0.952 ^e
Griffith Mine, The	6,420,165	-	5,569,351	1,516,760	1.153	4.233	3.672	0.798
Marmoraton Mining Co.	2,589,193	-	1,775,836 ⁶	502,456	1.458	5.153	3.534	0.860 ^e
Moose Mountain Mine	566,500	-	1,600,684	679,208	0.354	0.834	2.357	0.778
(National Steel)								
Sherman Mine	4,866,306	-	4,219,853	1,028,854	1.153	4.730	4.102	0.708
Steep Rock Iron Mines	7,070,282	-	1,620,922 ⁷	1,360,570	4.362	5.197	1.191	0.867
British Columbia								
Texada Mines Ltd.	13,018	675	848,577	325,663	0.015	0.040	2.606	0.745
Wesfrob Mines Limited	634,354 ¹	-	1,859,952	919,599	0.690	0.690	2.023	0.818

Source: Data supplied to Mineral Development Sector by companies.

¹ Calculated from data supplied by companies in cubic yards by using a factor of 2 long tons equals 1 cubic yard; ² Pellets and concentrate;
³ Schefferville "irgat ore"; ⁴ Includes 156,724 tons of hematite from the Mesabi Range. ⁵ for pellets; ⁶ Estimated tonnage of cobber product multiplied
 by a factor of 2; ⁷ Including direct-shipping ore from Caland.
^e Estimated; - Nil.

TABLE 18
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS,
BY TYPE OF PRODUCT, 1974

	Direct Shipping		Concentrates		Agglomerates		Total	
	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.	Long Tons	% Fe Nat.
IRON ORE PRODUCERS								
Newfoundland								
Iron Ore Company of Canada								
Carol Division			4,443,126	62.77	7,572,200	63.54	12,015,326	63.26
Wabush Mines			18,389	64.30	5,445,474	64.01	5,463,863	64.01
Labrador-Quebec								
Iron Ore Company of Canada								
1. Knob Lake Division	6,567,622 ¹	54.15					6,567,622	54.15
2. Sept-Îles Division					1,885,440	61.60	1,885,440	61.60
Quebec								
Hilton Mines, Ltd.								
Quebec Cartier Mining Company			1,127	62.09	930,452	66.51	931,579	66.50
Ontario			8,450,000	64.05			8,450,000	64.05
Adams Mine					1,142,321	65.15	1,142,321	65.15
Algoma Ore Division					2,074,455	48.01	2,076,682	47.99
Caland Ore Co.					1,034,446	63.54	1,964,537	60.18
Griffith Mine, The	2,227	34.5	930,091	56.45	1,568,755	66.71	1,568,755	66.71
Marmorator Mining Co.					520,281	65.50 ²	520,281	65.50 ²
Moose Mountain Mine					686,352	62.37	686,352	62.37
(National Steel)								
Sherman Mine					1,028,854	65.21	1,028,854	65.21
Sheep Rock Iron Mines	12,283	49.24			1,340,850	62.15	1,353,133	62.03
British Columbia								
Texada Mines Ltd.			325,663	59.81			325,663	59.81
Wesfrob Mines Ltd.			1,030,016	66.10			1,030,016	66.10
Total Iron Ore								
By Product Iron ore								
Inco (Copper Cliff, Ont.)					598,000	66.40 ^e	598,000	66.40 ^e
Total Usable Iron Ore								
Shipped	6,582,132	54.13	15,198,412	63.26	25,827,880	62.69	47,608,424	61.69

Source: Data supplied to Mineral Development Sector by companies.

¹ Includes 2,047 tons of chips grading 58.15% Fe. ² Dry weight. ^e Estimated. - Nil.

TABLE 19
USABLE IRON ORE SHIPPED BY CANADIAN PRODUCERS, BY
DESTINATION 1974

Iron Ore Producers	Canada		United States					Other	Total
	All Rail	Other	Great Lakes	Other Ports	All Rail	Britain	ECSC	Japan	
Newfoundland									
Iron Ore Co. of Canada	-	-	-	-	-	607,356	1,671,980	2,163,790	4,443,126
Carol Div. (conc.)						425,550	1,144,810	101,650	7,572,200
Wabush Mines	391,430	2,961,640	2,140,390	-	-	-	-	-	5,445,474
(pellets)						553,771	-	-	337,798 ¹
(conc.)	2,510,041	1,602,783	441,081	-	-	-	-	-	18,369
Labrador-Quebec									
Iron Ore Co. of Canada									
1. Schefferville direct-		166,901	1,683,333	2,233,671	-	903,018	1,395,467	185,232	6,567,622
shipping ore		304,500	1,365,410	215,530	-	-	-	-	1,885,440
2. Sept-Iles pellets									
Quebec									
Hilton Mines, Ltd.									
(pellets)	527,850	-	-	-	402,602	-	-	-	930,452
(conc.)	-	-	-	-	1,127	-	-	-	1,127
Quebec Cartier Mining Company	-	-	2,019,000	136,000	-	2,259,000	2,862,000	697,000	8,450,000
Ontario									
Adams Mine (pellets)	907,843	-	-	-	234,478	-	-	-	1,142,321
Algoma Ore Division	1,993,623	80,832	-	-	2,227	-	-	-	2,076,682
Caland Ore Co.									
Direct shipping	-	-	-	-	-	-	-	-	-
Concentrates	-	-	930,091	-	-	-	-	-	930,091
Pellets	-	-	1,034,446	-	-	-	-	-	1,034,446
Griffith Mine, The									
(pellets)	-	1,568,755	-	-	-	-	-	-	1,568,755
Marmoraton Mining Co.									
(pellets)	-	-	396,258	-	122,005	-	-	2,018 ²	520,281
Moose Mountain Mine -	617	-	685,735	-	-	-	-	-	686,352
National Steel									
Sherman Mine (pellets)	1,028,854	-	-	-	-	-	-	-	1,028,854
Steep Rock Iron Mines Ltd.									
(pellets)	-	1,109,059	231,791	-	-	-	-	-	1,340,850
(conc.)	12,283	-	-	-	-	-	-	-	12,283
British Columbia									
Texada Mines Ltd. (conc.)									
Westfrob Mines Ltd. (conc.)		3,369		272,193				325,506	325,663
Byproduct Iron Ore Producers								740,434	1,030,016
Inco, Copper Cliff, Ont.									
(pellets)			598,000						598,000
Total Usable Iron	4,471,070	6,134,887	13,526,876	5,438,865	762,439	4,748,695	7,074,257	4,213,612	1,237,723
Ore Shipped									47,608,424

Source: Data supplied to Mineral Development Sector by companies.

¹ Italy; ² Pellet fines to U.S.A.; ³ Ballast; ⁴ Australia.

- Nil.

TABLE 20
STOCKS OF USABLE IRON ORE AT MINES AND SHIPPING PORTS
IN CANADA, 1973-74

(long tons)

	December 31, 1973	December 31 1974	Change in Stocks
Newfoundland			
Iron Ore Company of Canada			
At Sept-Îles			
Concentrates	81,390 ¹	161,577	+80,187
Pellets - Carol Lake	230,091	440,997	+210,906
- Sept-Îles	199,310	312,944	+113,634
At Labrador City			
Concentrates	190,433	357,563	+167,130
Pellets	125,517	311,130	+185,613
Wabush Mines	255,882	573,200	+317,318
Wabana Mines ²	55,000	55,000	-
Labrador-Quebec			
Iron Ore Company of Canada			
Schefferville (at Sept-Îles)	2,866,391	3,496,197	+629,806
Quebec			
Hilton Mines, Ltd.	119,739	79,370	-40,369
Quebec Cartier Mining Company	888,012	992,554	+104,542
Ontario			
Adams Mine	151,929	164,153	+12,224
Algoma Ore Division	84,112	69,115	-14,997
Caland Ore Co. Ltd.	1,292,203	1,193,951	-98,252
Griffith Mine, The ³	73,451	21,456	-51,995
Marmoraton Mining Co.	28,167	11,584	-16,583
Moose Mountain Mine			
(National Steel)	35,843	40,636	+4,793
Sherman Mine ⁴	2,705	3,877	+1,172
Steep Rock Iron Mines Ltd.	944,103	1,539,019	+594,916
British Columbia			
Texada Mines Ltd.	173,381	143,505	-29,876
Wesfrob Mines Limited	115,097	88,315	-26,782
Total	7,912,756	10,056,143	+2,143,387

¹ From Carol operation.

² No ore shipped 1970-74.

³ Excluding stocks at Thunder Bay.

⁴ Stockpile as of December 31, 1973 plus the difference between production and shipments.

TABLE 21
ANALYSES OF CANADIAN IRON ORE SHIPMENTS IN 1974

B. Sept-Iles Operation*
Quebec
Sept-Iles Pellets
Sept-Iles Concentrate
Labrador
Sept-Iles Pellets
Sept-Iles Concentrate
Total Sept-Iles Operations

Quebec
Quebec Cartier Mining Company
Concentrate

Hilton Mines, Ltd.	930,452	66.51	66.65	0.006	1.97	0.075	0.29	0.22	1.91	0.007	+2%	1	0.20	94% 5/8"+1/4"	+200 mesh
Hilton Pellets	1,127	62.09	67.21	0.006	2.25	0.65	0.27	0.14	1.50	0.462	-		7.62	64% -325 mesh	
Hilton Chips	931,579	66.51	66.70	0.006	1.97	0.076	0.29	0.22	1.91	0.008	+2%		0.29		
Hilton Media															
Total Hilton Mines															

Ontario

Adams Mine	1,142,320	65.15	65.61	0.018	5.02	0.08	0.32	0.20	0.39	0.001			0.70	92.8% +3/8"
Adams Pellets														
Algoma Ore Division	80,832	49.61	50.11	0.020	10.82	2.68	1.60	6.04	6.74	0.117	1.19 ¹		1.00	
Algoma Sinter (regular)	1,993,623	47.90	47.92	0.025	10.12	2.54	1.66	10.58	7.67	0.098	1.19 ¹		0.00	
Algoma Sinter (superfluxed)														
Algoma Crude	2,227	34.5	-	-	-	-	-	-	-	-	-	-	-	-
Total Algoma	2,076,682	47.99	48.01	0.025	10.14	2.54	1.66	10.40	7.63	0.098	1.19 ¹		0.04	

Caland Ore Company Limited

Caland Pellets	1,034,446	63.54	63.94	0.014	5.40	0.20	1.22	0.20	0.25	-	-	-	0.63	3/4"+3/8"
Warren Coarse	721,753	56.71	58.94	0.025	4.93	0.17	0.72	0.18	0.22	-	-	-	3.79	2 ¹¹ /32"+3/16"
Scott Fines	208,338	55.95	59.08	0.019	5.02	0.18	0.93	0.18	0.22	-	-	-	5.29	3/16"+0
Caland Crude	199,384	54.97	60.10	-	-	-	-	-	-	-	-	-	8.54	Run of Mine
Total Caland	2,163,921	59.74	61.50	0.019	5.19	0.19	1.01	0.19	0.24	-	-	-	2.86	

Griffith Mine, The

Pellets	1,568,755	66.71	66.77	0.02	3.55	0.06	0.41						0.09	86.9% +3/8"-5/8"
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Marmoraton Mining Co.

Pellets	520,281	-	65.50	0.005	3.46	0.086	0.578	1.34	0.80	0.007				
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National Steel Corporation
of Canada, Limited

Pellets	686,352	62.37	63.36	0.010	8.00	0.013	0.56						1.6	97.02 + $\frac{1}{2}$ "
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Chips

Total, National Steel

Sherman Mine

Pellets	1,027,682	65.00	65.66	0.020	5.56	0.04	0.37	0.15	0.25	0.003	-		1.00	5/8"- $\frac{1}{2}$ "
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Steep Rock Iron Mines Ltd.

Pellets

SR Fines

Total, Steep Rock

	1,340,850	62.15	N/A	7.84	0.22	1.56				0.009			0.71	
	12,283	49.24	N/A										8.39	
	1,353,133	62.03	N/A		0.22	1.56				0.009			0.77	

Table 21 (cont'd)

	Shipments (long wet tons)	Dry Analysis									Loss by Ignition	Moisture	Size Range	
		Natural Fe	Fe	P	SiO ₂	Mn	Al ₂ O ₃	CaO	MgO	S				
British Columbia														
Texada Mines Ltd.														
Magnetite concentrate	325,663	59.81	63.50	0.010	5.35	0.15	0.86	2.53	0.54	0.901	-	5.8	-10 mesh	
Wesfrob Mines Limited														
Sinter Feed	413,384	60.82	60.9	0.15	1.40	-	6.60	-	-	1.15	-	5.1	<30%-149 micron	
													100%-4000 micron	
Pellet Feed	616,632	69.64	69.7	0.006	1.53	-	0.47	-	-	0.30	-	9.0	80% passing 44 micron remainder	
Total Wesfrob	1,030,016	66.10	66.17	0.064	1.48		2.93			0.64		7.4		

* Treat ore mined in Quebec and Labrador is concentrated and pelletized at Sept-Îles.

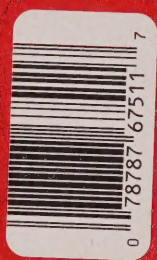
1 Gain on ignition.

TABLE 22
Canadian Consumption of Iron Bearing Materials at Iron-Steel Plants, ¹ 1974

	In Sinter Plants ²	In Direct Reduction Plants	In Iron and Steel Furnaces (long tons)		
			Pig Iron Furnaces	Steel Furnaces	Total in Furnaces
Iron Ore					
Crude and concentrates	221, 183	-	405, 100	58, 036	463, 136
Pellets	137, 843	364, 432 ⁵	9, 871, 112	68, 492	9, 939, 604
Sinter	48, 103	-	2, 066, 520	-	2, 066, 520
Sub-total	407, 129	364, 432	12, 342, 732	126, 528	12, 469, 260
Sinter Produced at Steel plant	-	-	1, 164, 579 ³	-	1, 164, 579
Total	407, 129	364, 432	13, 507, 311	126, 528	13, 633, 839 ⁴
% Fe	58.08	68.00 ^e	61.24	65.30	61.28
Other Iron-bearing Materials					
Flue Dust	190, 302	-	-	-	-
Scale, reduced pellets, etc.	574, 581	-	349, 818	311	350, 129
Total	764, 883	-	349, 818	311	350, 129
% Fe	51.56	-	31.01	60.00	31.04

Source: Company data supplied to Mineral Development Sector.

- ¹ All integrated producers; excludes Quebec Iron and Titanium Corp.; ² Sinter plant located at steel works consume new iron ore "screenings" as well as other iron-bearing materials; ³ Sinter produced mainly from 407, 129 tons of "new iron ore" and 764, 883 tons of other iron-bearing materials; ⁴ Including any sintered iron-bearing materials. Total iron ore consumption of "new iron ore" is an estimated 13.240 million tons, comprising 12.469 million tons of iron ore in furnaces, 0.364 million tons of pellets in direct reduction plants and 0.407 million tons of iron ore fines in sinter plants. ⁵ Includes pellets and crude ore.
- Nil; e Estimated.



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